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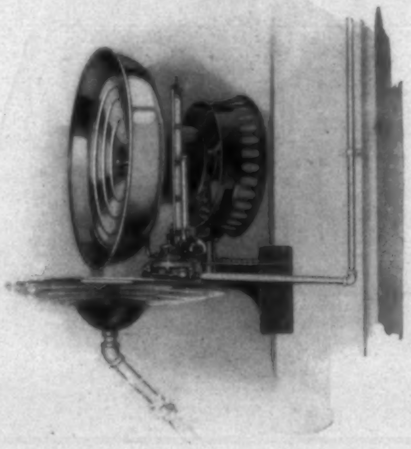
SOUTHERN
TEXTILE BULLETIN

VOL. 32 CHARLOTTE, N. C., THURSDAY, JUNE 9, 1927 NUMBER 15



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**First Aid To Production**

It takes a whole lot of humidity to keep the spinning going good on dry, hot days.

It takes a whole lot of humidity to keep kinky filling and broken warps out of the weaving when summer weather sets in.

Bahnson Humidifiers meet the first essentials of humidifying efficiency in that they actually distribute the required amount of moisture evenly and thoroughly throughout the room—leaving no dry spots.

Bahnson Humidifiers are the logical choice of manufacturers who wish to keep production up to standard,—in quality and quantity,—through the summer months.

**The Bahnson Company**
**Humidification Engineers**
**Winston-Salem, N. C.** **New York Office: 93 Worth Street**

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Classified Index to Advertisers Page 36

## Incorporated 1911
# CHARLOTTE MANUFACTURING COMPANY
## Charlotte, N. C.

**Cylinders**

**Doffers**

**Strippers**

**Burnishers**

**Top Flats Reclothed**

CHARLOTTE MANUFACTURING COMPANY
THE TEXTILE MILL SUPPLY COMPANY

**Reeds**

**Slasher Combs**

**Hand Cards**

**Lickerins Rewound**

**Top Flat Chains**

MANUFACTURERS OF

## CARD CLOTHING And REEDS

PHONES 2781—2782

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# Card Clothing

Correctly manufactured is of vital importance in the preparation of your product

**Our 60 years experience**
**Our complete organization for service**
**Our continual growth**

places us in the forefront

# Howard Bros.
## Manufacturing Company

*ESTABLISHED 1866*

**Home Office and Factory, Worcester, Mass.**

*Southern Branch Factory* — *167-169 South Forsyth St., Atlanta, Ga.*
*Southern Branch Office* — *1126 Healey Bldg., Atlanta, Ga.*
*E. M. TERRYBERRY, Southern Agent* — *G. L. MELCHOR, Asst.*

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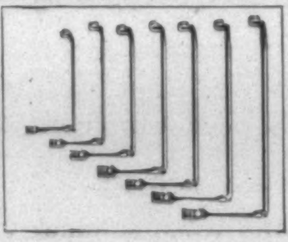


# THE LIFE

—of your mill machinery depends upon the care you give it. Constant usage causes wear and decreases working power. A greater production of your mill depends upon perfectly running machines. Meeting troubles before it occurs minimizes machine defects.

*And our work is to find this trouble!*

## Southern Spindle & Flyer Co., Inc.

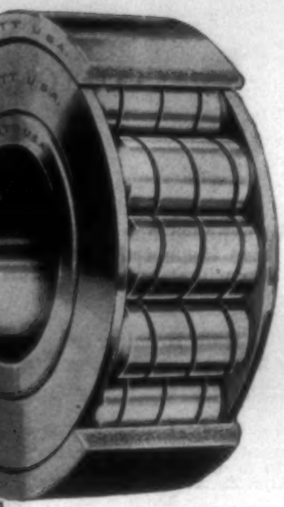
*Manufacturers, Overhaulers, and Repairers of Cotton Mill Machinery*

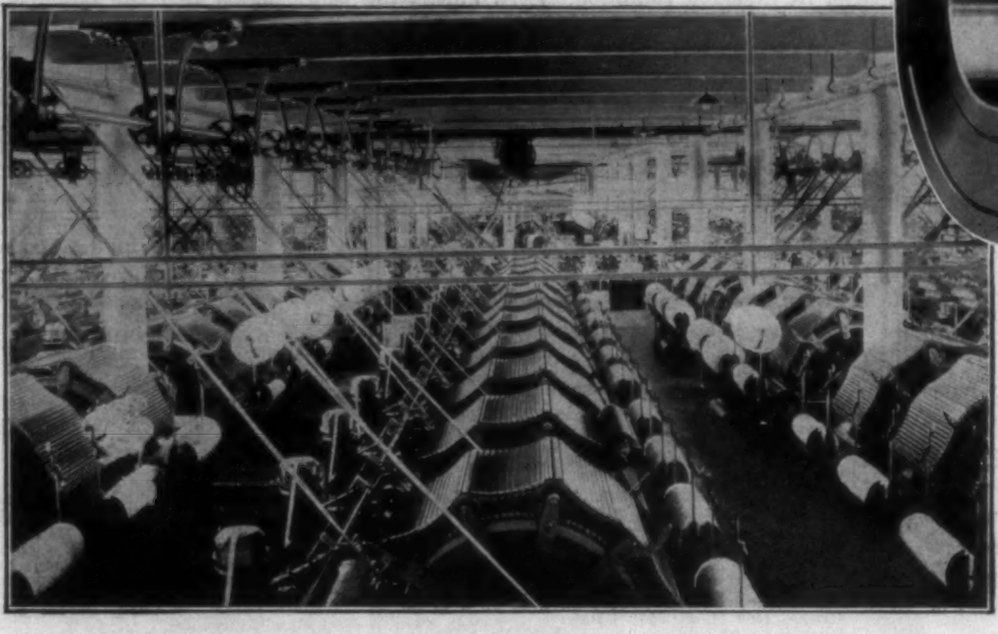
**CHARLOTTE, N. C.**

W. H. MONTY,
Pres. and Treas.

W. H. HUTCHINS,
V.-Pres. and Sec.

# Longer Lived Bearings for Preparatory Machinery





*Hyatts on cards and line shafts pyramid power savings. Lint cannot harm them, for their housings are oil tight.*

*Hyatt Line Shaft Bearings save 15% of your total power bill.*

GREAT success with Hyatt Roller Bearings in spinning frames, twisters, looms and finishing machinery first induced many mill owners to specify Hyatts for all their preparatory machinery.

Substantial power savings, smoother operation, permanent freedom from bearing repairs and replacements, and greater general bearing satisfaction accompany each installation.

Although a majority of Hyatt applications are for new equipment, a great many mills have modernized their present machinery by applying Hyatt bearings in specially designed replacement housings.

The long life of Hyatt Roller Bearings is guaranteed by an organization that has specialized in this one product for 36 years. When you are ready to modernize your equipment—let Hyatt engineers make the recommendations.

HYATT ROLLER BEARING COMPANY

Newark Detroit Chicago Pittsburgh
Worcester Philadelphia Oakland Cleveland

**HYATT**
**ROLLER BEARINGS**
PRODUCT OF GENERAL MOTORS

# AN UNUSUAL OPPORTUNITY

## COTTON MACHINERY AND COMPLETE EQUIPMENT OF THE
## POCASSET MANUFACTURING COMPANY
## OFFERED FOR IMMEDIATE SALE

**No expense has been spared to keep the machinery and equipment of this mill in first-class running order. All engineers who have inspected it, have commented upon its excellent condition. Even during the short period that the mill has been shut down heat has been in all buildings and the machinery given proper care.**

### Bale Breaker

1 Howard & Bullough 46 in. Apron 6 ft. long, Tin Hopper.
1 Waste Machine Kitson—Two Section Type W 24.

### Pickers

4 40 in. Howard & Bullough Breaker Pickers, 1 beater Auto feed.
3 36 in, Potter & Atherton Breaker Pickers, 1 beater.
4 40 in. Howard & Bullough Intermediate Pickers
4 36 in. Potter & Atherton Intermediate Pickers.
4 40 in. Howard &Bullough Finisher Pickers, 1 beater.
5 36 in. Potter & Atherton Finisher Pickers.
1 Howard & Bullough Automatic feed with 7 openings.

### Cards

15 Howard & Bullough Revolving Flat Cards 40 in.- 12 in. coilers 26 in. Doffer.
37 Howard & Bullough Revolving Flat Cards 40 in.-12 in. coilers 26 in. Doffer.
7 Howard & Bullough Revolving Flat Cards 40 in.- 12 in. coilers 26 in. Doffer.
14 Howard & Bullough Revolving Flat Cards 40 in.-12 in. coilers 26 in. Doffer.
26 Howard & Bullough Revolving Flat Cards 40 in.- 12 in. coilers 26 in. Doffer.
3 Whitin Revolving Flat Cards 40 in.-12 in. coilers 27 in. Doffer.
3 Whitin Revolving Flat Cards 40 in.-12 in. coilers 27 in. Doffer.
49 Saco Pettee Revolving Flat Cards 40 in.-12 in. coilers 24 in. Doffer.
1 Mason Revolving Flat Card 40 in.-12 in. coilers 27 in. Doffer.
1 Vacuum Stripping System, (Cook), capacity of 160 Cards, complete with Receivers and Hose.

### Drawing

27 Heads Howard & Bullough, 4 del. each 8 del. 12 in. bal. 10 in. coilers. Electric Stop Motion.
49 Heads Howard & Bullough, 6 del. each 30 del. 12 in. bal. 10 in. coilers. Electric Stop Motion.

### Slubbers

13 Howard & Bullough — 72 spindles each 12 x 6 with hank counters.

### Intermediates

9 Howard & Bullough 10 x 5 — 96 Spindles Each 6½ in. Gauge.
26 Howard & Bullough 10 x 5 — 108 Spindles Each 7 in. Gauge.

### Fine Speeders

8 Howard & Bullough 8 x 4—144 Spindles Each
47 Howard & Bullough 7 x 3½—176 Spindles Each
6 Howard & Bullough 7 x 3½—168 Spindles Each

### Spoolers

3 Saco-Lowell 108 spindles each, 4¾ gauge, Band Driven.
3 Draper 100 spindles each, 4¾ gauge, Band Driven.
1 Easton-Burnham 120 spindles each, 4¾ gauge, Band Driven.
2 Easton-Burnham 80 spindles each, 4¾ gauge, Band Driven.
1 Easton-Burnham 60 spindles each, 4¾ gauge, Band Driven.

### Slashers

2 Lowell 2 cylinders, 56x84 front, 56x60 back, 2 copper rolls, 7 beam creel.
3 Howard & Bullough 2 cylinders, 56x84 front, 56x60 back, 2 copper rolls, 7 beam creel.
5 Sets Iron Hoods, 1 over each 84 in. cylinder, and 1 over each size chest, and 2 B. F. Sturtevant steel fans, Style 60, No. 782.
4 Size Kettles 160 gal. each with agitators.

### Warpers

9 Draper 54 in. wide, drop wire stop motion, adjustable combs, 456 spool creels.
12 Hopedale 54 in. wide, drop wire stop motion, adjustable combs, 456 spool creels.

### Drawing-in Machines

2 Barber-Colman
Style 2 T 5 Bank No. 295.
Style 2 Q 5 Bank No. 30.

### Banding Machines

2 Cole Bros. 14 ft. long 12 in. wide at carriage base.

### Trimmers

3 Woonsocket 48 in. with back beam rack and overhead roll cloth.
1 Woonsocket 60 in. with back beam rack and overhead roll cloth.
2 Woonsocket 45 in. with back beam rack and overhead roll cloth.

### Folders

1 J. D. Elliot 42 in. One Yard Fold adjustable.
1 J. D. Elliot 47 in. One Yard Fold adjustable.
1 J. D. Elliot 54 in. One Yard Fold adjustable.

### Sewing, Rolling and Measuring Machines

1 Dinsmore 48 in. with dial counter attachment (Power).
1 Curtis & Marble 48 in. Hand Operated.

### Baling Presses

1 Bushnell No. 402, 30 in. x60 in., 72 in. opening, Heavy knuckle joint.
1 Lowell Hydraulic with plunger pump.

### Nappers

1 Grosselin-Fils, 105 in. single acting 14 Rolls—3 3-16 in. dia. with steam cylinder suction vents at base of machine.

### Power Equipment
### Engines

1 Greene, cross compound 26 in. x 48 in. x 60 in. stroke, 1500 H. P. 80½ RPM.
1 Rice Sargent, cross compound 26 in. x 52 in. x 60 in. stroke, 1500 H. P. 62½ RPM.
1 Valley Iron Works, horizontal, single cylinder, 9 in. x 10 in. stroke, 35 H. P. 325 RPM.
1 Atlantic Machine Works, single cylinder, vertical 5 in. x 6 in. stroke, 10 H. P. 250 RPM.
1 Buckley Jet Condenser 20 feet.
1 Buckley Jet Condenser 30 feet.

### Boilers

5 Aultman-Taylor, water tube, steam drum 42 in. dia. x 23 ft. 6in., 162 tubes, 4 in. dia. 350 H. P. Horizontal. Hand Fired. Smoke Flue 5 ft. x 8 ft. x 124 ft. sheet metal.

### Pumps

1 Warren Steam Pump Co., duplex, horizontal, direct acting 10 in x 10 in. x 12 in.
2 I. B. Davis & Son, duplex, vertical, gear driven, 8 in. x 8 in. with counter shaft.
1 Warren Steam Pump Co., duplex, horizontal, direct acting 4½ in. x 4 in. x 4 in.
1 Deane, horizontal, single, direct acting 12 in. x 14 in. x 8 in.
1 Trap, steam, 1½ in. (Crane) tilting.
1 Trap, steam, 1 in. (General Fire) tilting.
1 Trap, steam, 18 x 24, (Strong, Carlisle & Hammond).
1 Trap, steam No. 6 Model D. (V. B. Anderson).
2 Feed water heaters, 42 in. dia. x 10 ft., lagged steel shell.
1 Feed water heater, 40 in. dia. x 10 ft., lagged, steel shell.
1 Cameron Steam Pump Co., single horizontal, direct acting 5 in. x 5 in. x 8 in.
1 Damper Regulator, (Locke Regulator Co.)
1 Steam Regulator, 18 in. x 32 in., (Warren Steam Pump Co.)
1 Steam Indicator (Crosby).
1 Pressure Gauge Recorder (Bristol)
1 Oil Pump, 1½ in x 4 in., vertical.
1 Oil Feeding System (Sterling Lubricator Co.)
1 Receiver, steam, 40 in., x 10 ft., steel shell.
1 Receiver, steam, 32 in. x 5 ft., steel shell.
2 Inspirators 3 in. Pipe (Hancock).

### Generators

1 Sprague Electric Co., D.C. type D, 42½ KW. 340 amp., 125 volts, 950 RPM. Belt Driven.
1 Commercial Electric Co., D.C., 240 amp., 125 volts, 760 RPM. Belt Driven.
1 General Electric Co., D.C. type C.L. class 6-75-550, form B, 660 amp., 125 volts, 550 RPM. With counter shaft. Belt driven.
1 Fort Wayne, Motor Generator Set, type MCC, form D, 110 volts, 2.25 amp. 1700 RPM., Generator type MCC, form D, 35 volts, 3 amp. Belt driven, with counter shaft.

1 F. J. Hoxie, Swithchboard, late, (3 panels) 8 ft. x 5 ft. with 3 Weston volt meters, 120 volt, 1 Weston ammeter 400 amp., 1 Weston ammeter 300 amp., 1 Weston ammeter 800 amp., 3 rheostats, 3 switches D. P. D. T., 3 switches S. P. D. T.

### Drinking Water System

Audifren Machine Company drinking water system cooled and pumped with Audifren Singrun System, complete with 22 bubblers.

### Bobbin Stripping Machine

1 Roving bobbin stripping machine, single head.

### Bobbin Winder

1 Bobbin winder, 9 spindles, 5 in. gauge, 18 Horizontal bobbin spindles.

### Bobbin Reamer

1 Bobbin Reamer, countershaft attached to wooden stand 24 in. x 18 in. x 30 in. high.

### Motors

1 Motor, D. C. 10 H. P., 8 amp., 110 volt, 950 RPM. Phoenix Electric Co. Starting Rheostat, type S. A., form P. 1, 10 H. P., 110 volts. General Electric Co.
1 Motor, D. C., 10 H. P., 74.5 amp., 115 volts, 650 RPM. Complete with type S. A. form P. 1 Starting Rheostat. General Electric Co.

### Complete Stock of Supplies:

Bobbins, Spool, Skewers, Heddles, Reeds and Harnesses, Warper Beams, Oil Cabinets, Shuttles, Lap Rods, Metal Safety Guards, Belting, Shafting, Pulleys, Hangers, Roving Cans 10 in. and 12 in., Trucks Wooden and Sheet Metal.

Repair parts for Card, Spinning, Spooling and Weaving Equipment.

### Machine Shop

Band Saw 26 in., with 2 ft. x 3 ft. iron table.
Engine lathe, 16 in. x 6 ft. countershaft and back rest ,change gear complete to cut threads from 3 to 25 pitch.
Chucking lathe, 24 in. x 6 ft., 36 in. between head and tail stock with drill rest.
Engine lathe, 26 in. x 12 ft., 7 ft. 6 in. between centers with countershaft and back rest, change gears complete to cut threads from 1 to 10 pitch.
Engine lathe, 14 in. x 8 ft., 5 ft. 6 in. between centers, countershaft and back rest, change gears to cut thread from 4 to 30 pitch. Putnam Machine Co.
Engine lathe, 20 in. x 11 ft., 6 ft. 6 in. between centers, countershaft and back rest, change gears to cut thread from 2 to 12 pitch. Thomas and Co.
Speed lathe, 12 in. x 4 ft., 36 in. between centers, countershaft complete. Putnam Machine Co.
Flat turret lathe, 24 in. x 2 ft. x 9 ft. with cross slide equipped for bar stock. Jones & Lamson Machine Co.
Turning lathe, 24 in—24 ft. between centers, chain drive.
Double end emery wheel stand with 2 wheels and countershaft. Wheels, 18 in. diameter, 12 in. face 1 in. hole.
Horizontal Universal milling machine No. 3 countershaft, Indian Head and Vise. Brainard Milling Machine Co.
Bolt cutting machine No. 1 with countershaft, Dies to cut from ¼ in. to 1¼ in. bolts. Putnam Machine Co.
Upright drill—16 in. table, countershaft complete.
Centering machine and counter complete. Will take stock from ⅛ in. to 3 in.
Grindstone—6 in. face, 36 in. diameter, 1½ in. sq. hole and stand for same.
Combination upright drill and slotter, 26 in. table, countershaft complete.
Planer, 24 in. x 7 ft. platen. Putnam Machine Co.
Pipe threading machine and dies to cut from 1 in. to 6 in. Curtis and Curtis.
Duplex power hack saw, 3 in. stoke, direct drive.
Sensitive drill, 8 in. table, 12 in. head, countershaft.
Wood boring machine, wood frame, 6 in. lift, will take any size bit ⅛ to 1 in.
Circular saw—14 in., with 3 ft. x 4 ft. adjustable bench. S. A. Woods.
Wood turning lathe—20 in. swing, 9 ft., between centers, wood frame.
6 in. Pipe cutting machine. Forbe Co.
1 Anvil, 175 lbs.
1 Anvil, 250 lbs.
1 Forge 4 ft. x 2½ ft. fire pan, tin canopy, with 12 in. flue pipe.

## Apply to POCASSET MFG. CO., Fall River, Mass.

# Timken Bearings for the Medart Line

Adoption by Medart is the latest evidence of the high position of Timken Bearings in the power transmission field. Medart now provides the extreme economy and endurance of Timken friction elimination, Timken extra load area, and Timken self-contained thrust capacity.

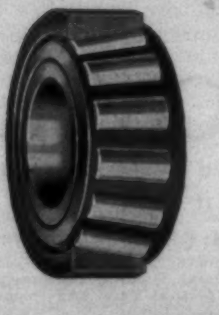
Power and lubricant are saved. Shafts take no moving contact. Compact, perfectly enclosed housings are assured. Indeed *every* factor of wear is cancelled by Timken tapered construction, Timken-made electric steel, and Timken ***POSITIVELY ALIGNED ROLLS.***

Insurance against shutdown, as well as operating and maintenance savings, make it immediately advisable to consider modern, permanently wearproof Timken-equipped power transmission.

THE TIMKEN ROLLER BEARING CO.
CANTON, OHIO

**Technical information regarding bearing sizes and mountings is obtainable from the Timken Roller Bearing Service & Sales Company's Branches located in the following cities: Atlanta, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, Kansas City, Los Angeles, Memphis, Milwaukee, Minneapolis, Newark, New York, Omaha, Philadelphia, Pittsburgh, Richmond, St. Louis, San Francisco, Seattle, Toronto, Winnipeg**

**TIMKEN** ***Tapered Roller***
**BEARINGS**



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AN unbroken chain from raw material to consumer. With every process, as well as the distribution under our direct supervision, we offer you a Rayon service as dependable as it is complete.

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SOUTHERN
TEXTILE BULLETIN

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VOL. 32 CHARLOTTE, N. C., THURSDAY, JUNE 9, 1927 NUMBER 15

# *Textile Cost Accounting*

Address by Frank Gurry* before Texas Textile Association.

ACCOUNTING stands high among professions and you would naturally expect to see a dignified scholarly trained man address you on an accounting subject. Instead you are confronted with a "black shirt and overall practical manufacturer" who has associated himself with one of the largest and oldest firms of certified public accountants in the South.

My accounting associates, Geo. G. Scott and Frederick Moore, have been preparing audits for cotton mills for years, and they knew and have always known that a semi-annual or annual audit was only a matter of recorded past history, and the costs per pound on yarns and fabrics that they worked out were very misleading and of no value at the moment. Yet in attempting to devise a distinctive cost system, they had reached a certain barrier that they could not cross without the aid of a practical manufacturer. When I recognized that their basis and practice of theory was right, we joined forces, and my mission today is to tell you the result of our study and work.

The cost of an article is the expenditure of the dollars and cents necessary to make that article, no more, no less.

Based on this fact, the word "standard" has been used in connection with various cost systems, but to my mind, the word "standard" has no right in the picture. A standard for Mr. A and his mill could not possibly be a standard for Mr. B's mill. They might be making a like fabric, but the physical setting and manufacturing conditions surrounding the two mills could be far apart.

Permit me then to replace the word "standard" with that of "normal." Normal conditions, normal productions, and normal costs, set up after a study has been made of each individual unit and its normal determined. Not what the mill across the street may be doing, not the established normal basis of a mill in some other State, but the normal conditions of your own particular mill as your basis.

Cost systems today arrive at a cost per pound or per yard and stop right there. We show not only the cost per pound but also show your normal basis on which you should operate and the reason why your normal and actual cost show a variation. Further, we show the particular unit or units of machinery throughout the mill where these variations are active. We show that a loss in production below normal must represent idle machinery and for the first time in the history of cost accounting we transpose idle machinery into dollars and cents losses.

Two thousand years ago an old be-whiskered philosopher made this statement: "He is not only idle who is not employed, but he also is idle who might be better employed."

We subdivide idle machinery into two classes, first, the machinery that did not operate any part of the period considered, and second, that portion of machinery that is determined to be idle by a measure of its sub-normal production.

Both of these classes of machinery represent a cost of non-production or idleness, and insofar as overhead expenses are concerned do not represent an overhead cost of the product actually obtained.

It does not represent an overhead cost of the product actually obtained for the obvious reason that the overhead cost of idle machinery does not directly or indirectly assist in the production. While we must eventually consider this cost of idleness, as the cost of the product obtained for selling purposes, our first step from a manufacturing standpoint is to determine the extent of the cost of this idleness in order that it may be reduced to a minimum.

Having brought to light the cost of total idleness, together with the cost of a sub-normal production, the problem now becomes purely a manufacturing one in so far as applying corrective remedies is concerned.

Cost methods as now employed having as their object that of obtaining a cost strictly for selling purposes, merge together both normal and abnormal costs without any distinction between them, and while developing thereby cost information for the selling department, furnish no information or guide to those responsible for manufacturing results. We also show the over and under expenditure of payroll money and the place or places in the mill where this expenditure occurred.

Pounds divided into dollars do not return a true cost per pound.

Your entire mill is made up of various types of physical units of machinery, out of which flow pounds, to be true, but the burden should be assessed first, by rate per machine, spindle, or loom, and from that point comes the transposing of the per poundage cost.

In arriving at the cost per pound it will be noted by an analysis of both the machinery which produced the pounds, and the money spent in producing such poundage, that it is divided into two classes:

First, as to machinery:

A. Machinery actually producing.

B. Machinery not producing.

C. Machinery only partially producing.

Second, as to dollars:

A. Dollars spent and required for production.

B. Dollars expended on idle non-producing machinery.

C. Dollars expended on machinery producing a sub-normal production.

When we analyze this condition, our statement "that pounds divided into dollars do not give a true cost per pound" becomes clearer, because it will be noted that on one hand, some machinery is not or is only partially producing the pounds obtained, and on the other hand, many of the dollars expended are not required or only partially required to make the pounds obtained.

This being a fact, to obtain a true cost of production, we must first take out of the cost, that cost which was not expended in securing production, but which was expended in maintaining idle machinery, or in operating machinery producing a sub-normal production.

We have found by experience that the very process of doing this thing, obtains not only a continuous and true cost of production, but discloses at the same time the dollars and cents cost of abnormal conditions, and where and what caused these conditions to exist.

We must remember as textile men that while accountants have told us that we must know how much we expended in labor, supplies, and overhead, to make a pound of goods, they have not told us the value of this information from a manufacturing standpoint.

We know that even though we were able to measure the exact amount of labor, supplies and overhead expended in making a pound of goods, that this information would be of no practical value to us in so far as controlling these expenditures is concerned.

It would be of no practical value for the reason that this information would not tell us how much excess money we expended in making the pounds of goods, nor how many more pounds of goods we should have made with the money we did spend.

A separation between the normal and abnormal expenditures of dollars in making production, and a distinction between a normal and sub-normal production of each unit in the mill, should be the first objective of cost accounting in order to determine the cost of abnormalities, both as to expenditures and production.

The second objective of cost accounting should be to present these abnormalities in such a manner as to aid those who are responsible for their existence to correct them.

The third objective would be that of obtaining a normal fabric cost of each construction to which may be later added, at the discretion of the management who will be guided by market conditions, a portion of the abnormal costs so determined.

It is my purpose today to talk to you of the first two and most important cost objective. Obtaining the third objective, that of a distinct yarn or fabric cost is simply applying the results obtained in the first two objectives.

In presenting our informative cost system, I propose to go into detail of two departments only, namely carding and spinning. The balance of the various units throughout the mill are handled inidentically the same manner, and all that is necessary is for you to get a picture in your mind of the plan of operation of our principles.

I dislike to call our plan simply a cost system for that does not do justice to the information that it presents or brings out, and we have given the whole the title of informative cost system.

We bring out information for the superintendent and his staff of overseers. Information that some superintendents will face with a sense of fear in their hearts, for they will dread to have their executive officers know that such variations as shown are really happening in their mill.

---

*With Geo. G. Scott, Charlotte.

To such men let me say that you are behind the times and that you must wake up to the fact that this is the day of "cards on the table, lets find the trouble." The superintendent who faces his treasurer with the statement, "You have the books audited every year, now give me a chance to have the mill audited," will be the man whose present job is doubly secure and who will go far up the ladder in the mill game.

We bring out information for the executive whereby he can intelligently discuss manufacturing problems with his operating superintendent, a result of which will bring them into a closer bond of understanding.

We bring out information that will unable the treasurer to guide and direct his sales agents and I believe that this point alone, if worked out on a spirit of partnership between the mill and the sales agents would mutually increase profits.

In setting up production data, three distinct sets of figures are encountered, namely, basic data, or 100 per cent, which we all know is an ideal, never has and never can be obtained. Normal production data, which is the production figure that we carefully estimated and agreed could be secured, and third, the actual production, expressed in pounds, and the per cent of the ideal or 100 per cent basis.

The figures shown are actual ones taken recently from a mill in which we set up this system.

In the chart shown herewith:

### Block A.

Block A shows 100 per cent production data, actual pounds produced, and the actual per cent of production of each hank roving in the card room.

As a matter of convenience, and to allow ourselves to concentrate our attention on the principles involved, let us take the 4.20 hank roving and follow it down through the various steps of the card room cost sheet.

The 4.20 H. R. was alloted 1,611 speeder spindles. 100 per cent production for 55 hours would be 10,364 pounds per spindle. 100 per cent total pounds from 1,611 spindles would be 16,696 pounds. Actual production was 14,224 pounds or a figure of 85.20 per cent production.

### Block B.

This block shows first the total spindles allocated to 4.20 H. R. (1611) Next we show 87 per cent production for 55 hours or 9.01 pounds per spindle and 14,526 total pounds. What is this 87 per cent and where did it come from? We all agreed when this mill was started that the speeders should and would produce 87 per cent of the 100 per cent basis. The actual production was only 14,224 pounds, or, on 4.20 H. R. a difference of 302 pounds betweens actual and normal.

### Block C—Actual Basis.

14,224 pounds were actually produced at the rate of 8.76 pounds per spindle.

### Block D.

You said you would produce 87 per cent or 9.01 pounds per spindle and if you had done so, and only needed 14,224 pounds, then you should have employed only 1,577 spindles (14,224÷9.01) to have produced the 14,224 pounds. As a result you had 34 spindles that did not produce an ounce of 4.20 H. R. for the full 55 hours and might just as well have been covered up. Idle machinery, on which you were paying out money for non-productive labor and the various items that total into overhead.

(Continued on Page 12)

| A | Basic Data 100% Production | 4.20 H. R. | 2.10 H. R. | 2.00 H. R. | 2.50 H. R. | 1.90 H. R. | 2.30 H. R. | Total |
|---|---|---|---|---|---|---|---|---|
| | No. of Spindles Operated | 1,611 | 222 | 178 | 446 | 337 | 232 | 3,026 |
| | 100% Prod. per Spindle Hours 55 | 10.364 | 23.479 | 24.654 | 16.641 | 24.329 | 18.758 | 15.290 |
| | 100% Prod.—Pounds | 16.696 | 5.212 | 4.388 | 7.422 | 8,198 | 4.352 | 46,268 |
| | Actual Production | 14.224 | 3.978 | 3.111 | 5.999 | 6.943 | 3.752 | 38,007 |
| | Production Percentage | 85.20 | 76.32 | 70.89 | 80.84 | 84.70 | 86.22 | 82.15 |

| B | Basic Data Normal Production | 4.20 H. R. | 2.10 H. R. | 2.00 H. R. | 2.50 H. R. | 1.90 H. R. | 2.30 H. R. | Total |
|---|---|---|---|---|---|---|---|---|
| | No. of Spindles Operated | 1,611 | 222 | 178 | 446 | 337 | 232 | 3,026 |
| | Stand. Prod. per Spindle 87% 55 hrs. | 9.017 | 20.427 | 21.449 | 14.478 | 21.166 | 16.319 | 13.302 |
| | Standard Production—Pounds | 14.526 | 4.534 | 3.818 | 6.457 | 7.133 | 3.786 | 40,254 |
| | Actual Production | 14.224 | 3.978 | 3.111 | 5.999 | 6.943 | 3.752 | 38,007 |
| | Below or Above Standard Pounds | 302 | 556 | 707 | 458 | 190 | 34 | 2,247 |

| C Actual Basis | | | |
|---|---|---|---|
| Hank Roving | Actual Production | Pounds per Spindle | Spindles Operated |
| 4.20 | 14,224 | 8.769 | 1,611 |
| 2.10 | 3,978 | 17.918 | 222 |
| 2.00 | 3,111 | 17.477 | 178 |
| 2.50 | 5.999 | 13.450 | 446 |
| 1.90 | 6,943 | 20.602 | 337 |
| 2.30 | 3,752 | 16.172 | 232 |
| Total | 38,007 | 12.560 | 3.026 |

| D Standard Basis | | | | Normal Labor Cost | | | | |
|---|---|---|---|---|---|---|---|---|
| Hank Roving | Actual Production | Pounds per Spindle 87 hrs. 55 | Spindles Run Full Time | Non-Productive Labor Rate per Spindle | Total Non-Productive Labor | Productive Labor | Total Labor | Labor Cost per Pound |
| 4.20 | 14,224 | 9.017 | 1,577 | .14223 | 224.29 | 169.27 | 393.56 | .02766 |
| 2.10 | 3.978 | 20,427 | 194 | .14223 | 27.59 | 23.33 | 50.92 | .02285 |
| 2.00 | 3.111 | 21.449 | 145 | .14223 | 20.62 | 18.70 | 39.32 | .01263 |
| 2.50 | 5.999 | 14.478 | 414 | .14223 | 58.88 | 46.87 | 105.75 | .01762 |
| 1.90 | 6,943 | 21.166 | 328 | .14223 | 46.65 | 35.41 | 82.06 | .01181 |
| 2.30 | 3.752 | 16.319 | 229 | .14223 | 32.57 | 24.38 | 56.95 | .01517 |
| Total | 38,007 | 13.164 | 2,887 | .14223 | 410.60 | 317.96 | 728.56 | .01916 |

| Spindles Idle in Excess of Normal Allowance |
|---|
| 34 |
| 28 |
| 33 |
| 32 |
| 9 |
| 3 |
| 139 |

CARD ROOM

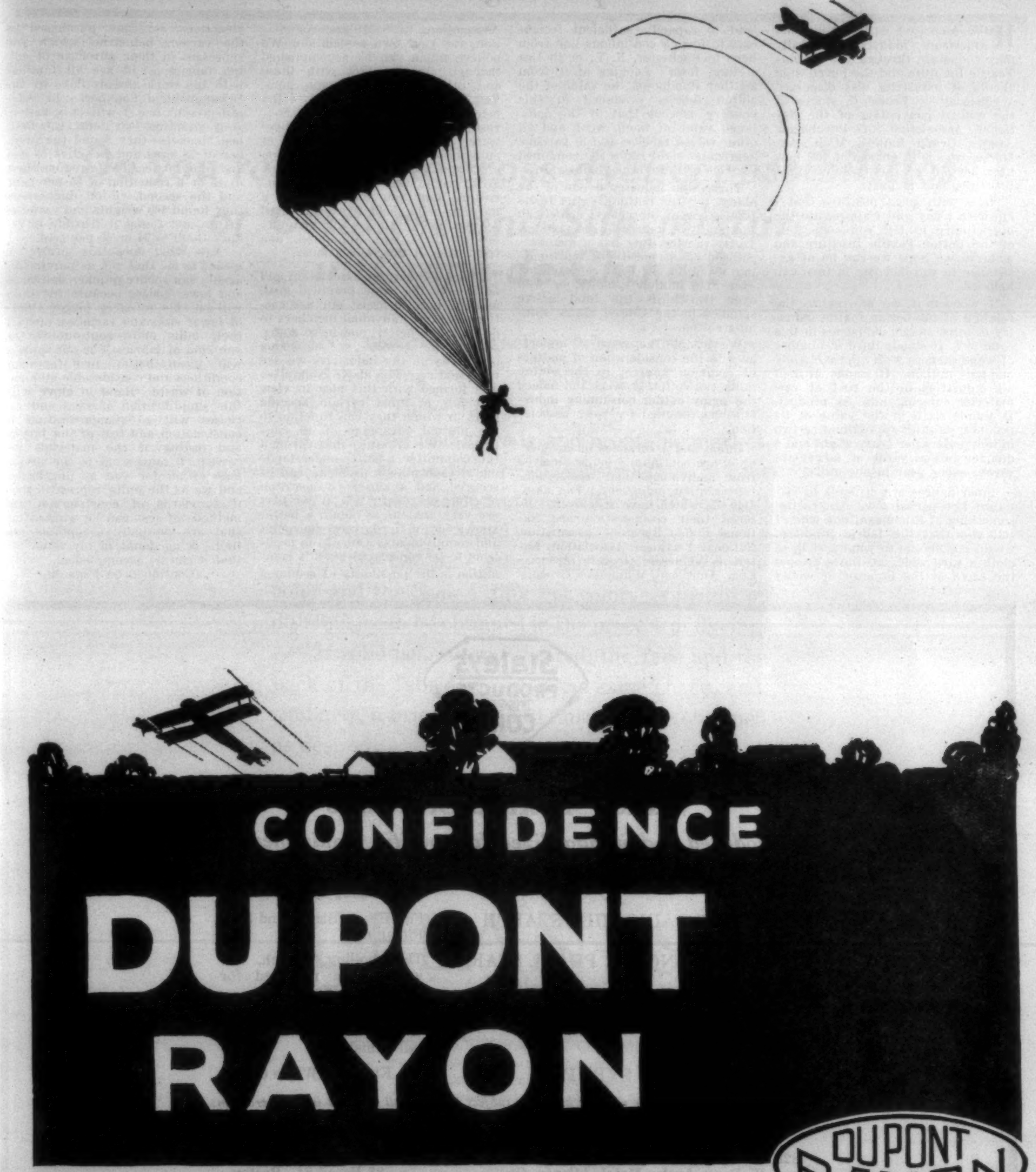
| E Operation | | Actual Pay Roll | Pay Roll: Actual Units: Number of Hanks | Number of Weeks | Standard Rate per Unit | Standard Pay Roll | Variation |
|---|---|---|---|---|---|---|---|
| Slubbers | Day | 59.08 | 422 | | .14 | 59.08 | -0- |
| | Night | 8.68 | 62 | | .14 | 8.68 | -0- |
| Intermediates | Day | 32.17 | 184 | | .18 | 33.12 | .95 |
| | Night | 8.50 | 50 | | .18 | 9.00 | .50 |
| Speeders | Day | 158.28 | 871 | | .18 | 156.78 | 1.50 |
| | Night | 59.94 | 285 | | .18 | 51.30 | .36 |
| Total Productive Labor | | 317.65 | 1.874 | | | 317.96 | .31 |
| Non-Productive Labor | Day | 387.39 | 1,477 | | Non-Pro. .25 | 369.25 | 18.14 |
| | Night | 48.28 | 397 | | .10 | 39.70 | 8.58 |
| Overseers | | 21.45 | | 1 | 21.45 | 21.45 | -0- |
| Total Non-Productive Labor | | 457.12 | | | | 430.40 | 26.72 |
| Total Labor | | 774.77 | | | | 748.36 | 26.41 |

**Period**

Week Ended 11/20 1926

| F Variation Between Actual and Standard Labor Cost | | Pounds | Per Pound | Amount |
|---|---|---|---|---|
| Actual Pay Roll | (See Form E ) | 38,007 | .02038 | 774.77 |
| Standard Pay Roll | (See Form D ) | 38,007 | .01916 | 728.56 |
| Variation | | 38,007 | .00122 | 46.21 |

| G Causes of Variation Between Actual and Standard Labor Cost | Idle Spindles | Rate per Spindle | Amount |
|---|---|---|---|
| Above Normal / Below Normal { Production | 139 | .14223 | 19.80 |
| Decrease / Increase { In Amount of Labor | | | 26.41 |
| Total Variation | | | 46.21 |



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# Textile Institute Cooperating With Many Industries

HOW American cotton mills and American industry generally may cooperate through the Cotton-Textile Institute and the purchasing agents of industries was discussed Wednesday by Ernest C. Morse, at the annual convention of the National Association of Purchasing Agents, Grand Rapids, Mich. Mr. Morse, who is in charge of the new uses section of the Cotton-Textile Institute, said in part:

"It is with great pleasure that I am here today and I appreciate the opportunity to tell you something of the Cotton-Textile Institute and wherein we hope we can be of assistance to you and you in turn can help us.

"I wonder if we all realize the relation of the cotton textile industry to other major industries in this country? It stands third in number of wage earners with approximately one-half million. It stands fifth of all industries in the cost of raw material entering into its product. It stands sixth in the value of its product, its sales approximating two billion dollars per year. Eight and a quarter billion yards of fabric are woven every year in our mills.

"Such figures are difficult to visualize but perhaps we can realize something of this magnitude when I tell you that the fabric produced would enable one to wind a strip of cloth a yard wide, 200 times around the earth at the Equator or would load to capacity sufficient freight cars to form a continuous line from here to Rochester, N. Y., or to Des Moines, Iowa. Looking at it from another standpoint, the value of the cotton fabrics produced in this country exceeds that of the combined value of linen, wool, and all other woven fabrics, and in yardage aggregates eight times the combined yardage of these other industries.

The cotton industry is one of the oldest, but the Cotton-Textile Institute is one of the newest comers to the family of industrial associations. Today the Institute has a membership of 438 corporations, representing 484 mills, in turn representing over 21½ million spindles, or well over two-thirds the total active spindles in the United States spinning cotton.

We attach the greatest importance to the consideration of matters of common interest to the cotton mills, the cotton growers and indeed the many cotton consuming industries represented by your association.

Offers and assurances of co-operation are continually being received from individuals and associations representing industries. The associations which have specifically offered their co-operation are National Coffee Roasters' Association, National Fertilizer Association, National Wholesale Grocers' Association, American Wholesale Grocers' Association, Rice Millers' Association, and your own association. We believe much can be accomplished through close contact with these and other business organizations. You have already been told of the meeting arranged by your Mr. Forrester on May 26th, where there were present representatives of your association, of the Association of Cotton-Textile Merchants of New York and of the Cotton-Textile Institute. Can you imagine such a meeting being held five years ago! At that meeting a working committee of three was appointed, one from each of the associations.

I take it that your association and ours have the same practical goal, namely, how to assist our associations and our individual members to do their job better, and in so doing, reflect the results in increasing prosperity in the industries we are representing. The above committee was formed with this idea in view and has in mind certain specific ways in which they can function to the mutual advantage of all concerned. We are sure that through this committee, a better understanding of each other's problems can be secured and a closer co-operation of effort obtained. We on our part are very anxious to obtain a better knowledge of the buyers' viewpoint and requirements. One of the problems to be considered by this committee is the possibility of reducing structions, etc., now purchased by the various industries which you represent in their purchase of cotton fabrics. You are all familiar with the work already done by the Department of Commerce, in "simplification," and I will only call to your attention two items, the first: bed blankets—they found the number of 78 sizes and varieties in use, and found it feasible to reduce them to 12 or a reduction of 85 per cent, and the second, cotton duck—here they found 460 weights and varieties in use and found it feasible to reduce them to 94 or 60 per cent.

"Now what does this mean? It means to me that you as purchasing agents can secure quicker deliveries and lower prices because the mills will be able to carry bigger stocks of fewer sizes and varieties, operate their mills more continuously on one kind of fabric. For our mills it will mean better manufacturing conditions and considerable elimination of waste. Hand in glove with this simplification of sizes and varieties will go standardization in construction and test of the fabrics and testing of the materials received. It must work to the advantage of all for you as purchasers and we as the mills' representatives if standards of construction and methods of test can be worked out that are mutually acceptable and there is no doubt in my mind but that it can be accomplished.

(Continued on Page 30)

Staley's PRODUCTS FROM CORN

**Staley Textile Starches**

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| | |
|---|---|
| STALEY'S ECLIPSE MILL STARCHES | Thin-boiling Starches for Warp-Sizing and Finishing. |
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| STALEY'S ANCHOR PEARL STARCH | Thick-boiling Starch, re-washed and re-bolted for Sizing and Finishing. |
| STALEY'S STAYCO GUM | For Bright Colored Warps or Fabrics, Rayon and Special Finishes. |
| TEXTILE CORN SYRUP | For Khaki, or White Goods. |

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If solid colors are required, the face and the back of the fabric are dyed the same shade, and, similarly, a bright or a dull finish can be obtained as desired.

Celanese brand yarn is highly elastic and remarkably durable; and it has unique hygienic qualities. The dyestuffs used for dyeing Celanese brand fabrics give colors that are unusually fast to sun, suds, salt-water and perspiration.

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## Textile Cost Accounting

(Continued from Page 8)

### Block E.

This block is a comparison between the normal and the actual payroll. The normal payroll is composed of two items, that is, productive labor or piece work, and non-productive or day labor. The productive labor, covering slubbers, intermediates and speeders show in this case a favorable variation of $0.31. The non-productive labor shows an unfavorable variation between the actual and normal payroll of $26.72 making a net unfavorable variation of $26.41. This $26.41 represents an amount over and above the amount you said you would need. In establishing the normal rate per hank for the day workers, which is her shown as 25 cents per hank for the day, and 10 cents per hank for the night; these rates were established by accepting the best rate obtained during the previous weeks when the card room was operating under the same conditions as at present.

Returning to Block D, notice that 2,887 spindles were required to produce the production obtained, instead of 3,026 spindles on which the normal payroll is based. The next step therefore is to obtain the normal payroll cost, for operating these required 2,887 spindles.

The normal non-productive labor rate is arrived at by dividing the normal total non-productive payroll or $430.40 by the spindles allocated or supposed to be producing, giving a rate per spindle of .14223 cents. When this rate per spindle is multiplied times the spindles required, or 2,887, the result is the amount that should have been spent on non-productive labor, namely $410.60.

The figures shown under the column of productive labor are obtained by dividing the normal productive payroll by 2887 spindles which sets up a productive rate per spindle.

This rate times the total spindles operated on each hank roving gives the normal productive labor cost on each hank roving.

The sum of $410.60 and $317.96 equals the total normal payroll that should have been expended to operate 2,887 spindles and secure the 14,224 pounds obtained.

When the production of each hank roving is divided into the total dollars set up for each roving, we get a normal cost per pound.

### Block F.

Shows a variation of $46.21 which is the difference between the actual payroll and the normal payroll.

### Block G.

Shows the causes of variations as shown in Blok F and is divided into two parts. First, we have 139 spindles that did not produce a pound during the period, yet must be charged with the established rate per spindle of .14223 ents, which totals $19.80. Second, we have an unfavorable variation of $26.41 between actual and normal payrolls, the two amounts totaling $46.21 and our problem proves itself.

### Spinning.

Under Block A, we show the basic data or 100 per cent basis of the spinning room.

The 24s warp was allotted 5,181 spindles, which if run for the full 110 hours would have produced 13,910 pounds, or 2.68 pounds per spindle. They actually produced 11,447 pounds, or 82.28 per cent production.

Turn now to Block B. Under 24s warp we show the spindles allotted to this number namely 5,181, and the normal pounds per spindle for 110 hours at 90 per cent, or 2.41 pounds. Next, the total pounds at 90 per cent or 12,517 pounds.

Now, Mr. Mill Man, at a conference held last week with your superintendent, overseer of spinning and his second hand, it was agreed that the spinning would produce 90 per cent production—that it could, and should produce more than 90 per cent if everybody went after it, but we were willing to let it ride at 90 per cent.

You were about 3 per cent wet when the 90 per cent figure was decided upon and you certainly were all mud when you only produced 11,447 pounds or 82.28 per cent. You had the machinery and the cotton, the transmission delivered power for the full 110 hours, yet you fell below the known normal standard of production by 8.75 per cent or 1.070 pounds. Let me make a statement of fact right here. **The profit of most mills is tied up in this very 8 to 10 per cent.**

In Block C, is shown the actual total pounds or 11,447 and the actual pounds per spindle of 2.20.

It may seem to some one that we are repeating some data, and I agree with you, yet it only takes a few minutes for an office clerk to set this data up, and then when we come to analyze the sheet, every figure that has any connection with pounds or dollars is before us. This point should be especially pleasing to the busy executive.

In Block D, under standard basis, is shown first the yarn number, and we will continue to follow No. 24s. Next, the actual production of 11,447 pounds, then the pounds per spindle per week at 90 per cent or 2.41.

Here we begin to turn the spot light on idle machinery. If you had produced yarn at the rate of 90 per cent, or 2.41 pounds per spindle and only needed the total pounds that you actually did produce to keep up, then you should have employed only 4,737 spindles.

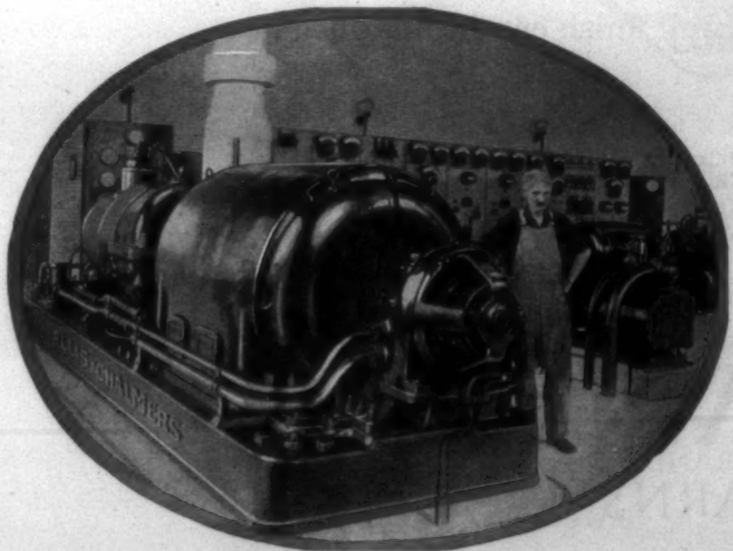
As a result of you failure to produce what the spinning room was capable of doing you had 444 idle spindles that did not produce an ounce of 24s warp for the full 110 hours.

(Detour sign—"Don't argue with this sign").

When we figures the other numbers in the same way, the fact is disclosed that the room shows a total of 545 idle spindles.

Turn your attention now to Block E. This is a comparison of the actual pay-roll and the pay-roll at which you agreed you would operate at 90 per cent production.

(Continued on Page 29



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THE idea of Aluminum Bronze Powder as a pigment of major importance in industrial painting is new. Yet American Industry has already proved that Aluminum Paint is its most practical protective medium. The particular application of this medium to the Textile Industry is told on the following page. Read it.

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ALUMINUM IN EVERY COMMERCIAL FORM

# ALUMINUM PAINT

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*Aluminum Paint consists of Aluminum Bronze Powder mixed with a suitable vehicle of oil or varnish.*

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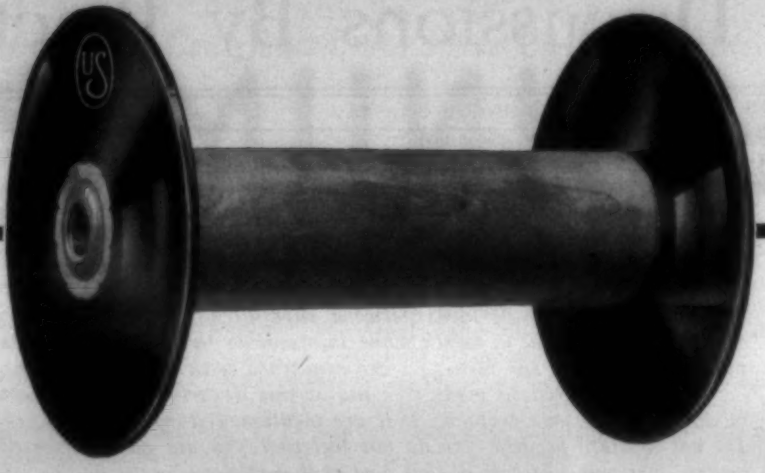

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*Eliminate your Spool Replacement Expense.*

Spool waste is practically eliminated. Smooth, sliverless heads insure freedom from knots and injuries to operatives' hands. Faster and easier spooling and more yardage means greater production.

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# Practical Discussions By Practical Men

*The Practical Discussion Department of the Southern Textile Bulletin is open to all readers whether they are interested in seeking information on technical questions or are willing to help "the other fellow" who has experienced trouble in some phase of his work.*

*The questions and answers are from practical men and have often proved extremely valuable in giving help when it was urgently needed.*

*The interchange of ideas between superintendents and overseers develops a great deal of worth while information that results in much practical benefit to the men who are concerned with similar problems.*

*You are invited to make free use of this department and to join in discussing various problems that are mentioned from week to week. Do not hesitate because you do not feel that you are an experienced writer. We will take care of that part of it.—Editor.*

### Points on Top Covered Rolls.

Editor:

I believe that the importance of properly covering top rollers is often overlooked, even by good spinners. These rolls require close attention and a good roller coverer is a big gun in the battle when it comes to having good running spinning.

There are several things that will damage rolls and run up roll cost. I will mention a few, as follows: Roving traverse stopped, roving traverse making too short a stroke, oiler putting oil on leather or skin, thread lapping around front steel rolls, roving twisted too hard, especially where flutes on steel rolls are dull, hard ends, unsuitable flannel and the way it is cut and put on the boss, glue put on the metal when cold, loose cots and cots not properly burned, too much or not enough weight on roller, bosses of rolls being of different sizes, top covered rolls being same size as steel rolls, lap on cot running wrong way, unfavorable atmospheric conditions.

The boss of the roll should be measured exactly with calipers so that in size it will either make the top covered roll 1-16 of an inch larger or smaller than the front steel roll. This prevents floating. The top covered roll should never be the same size as the steel rolls. I prefer it 1-16 larger than the front steel roll, because it covers more flutes on steel rolls and gives better drawing power. It also saves power, as the larger the top roll, the easier it is to pull.

The bosses must be thoroughly cleaned of grease and oil and a grade of flannel used that has a good cushion and nap that will expand in damp rainy weather. The cots should be made a fraction smaller and drawn tightly over the flannel, then the edges burned well. The grade of flannel used and the atmospheric conditions are the most important things to consider in roller covering. Leather will absorb a great deal of moisture and the skin on the roll during a damp rainy spell will absorb moisture and become slack. If you have a flannel that has life and expansion, it will expand and keep it tight. If you use a flannel with a hard finish that will pack, it will not expand and when the cot absorbs moisture, but will get slack and begin powdering at once. The thing to do is to discard that roll.

Flannel should be cut at an angle of 30 degrees. It will not give the best results if it is cut straight across for it will form a ridge in the glue where the flannel comes together on boss of roll and cut the ends down between the flutes although the roll may appear perfectly smooth.

A great deal more could be said on this subject and I would like to hear from some other good spinners as to what they consider the best flannel to use for best results and make a perfect roll. In conclusion I want to say I use a 24-ounce grey flannel with a good nap and I also use a light skin.

Carolina Spinner.

### Yarn Tension at Spoolers.

Editor:

Why not put enough tension on the yarn at the spoolers so that all weak places would break there instead of at the warpers and subsequently at the looms? Weaver.

### Variation in Roving.

Editor:

When my weights or sizes of roving are right in the carding room, but weigh wrong in the spinning room, where should the change be made to get the numbers right again—in the card room or in the spinning room? Also why should the roving be right in the carding room, but wrong in the spinning room. Ark.

### Answer to Ala.

Editor:

Replying to Ala.'s inquiry regarding the weight of the sliver when more waste is removed viz: does it affect the weight of the sliver.

Yes it does. The writer found that when 10 per cent more waste was removed on account of speeding up the top flats twice as fast, the card sliver was lightened about 1½ per cent. Top Flat.

### Bobbins Too Full.

Editor:

Why is it that some days my spinning bobbins fill larger in diameter than on some other days? Even though the yarn number is of the same size? Bobbin.

### Mixing Cotton.

Editor:

When there are many different lots of the same kind of octton, would you take the bales of one mark, or of two marks from a mixing, or would you take some of each mark to make an average mixing, also how much should you mix at one time? New Carder.

### Answer to X. X. T.

Editor:

The weights applied to the beam on the slashers, unless carefully checked up and tested and readjusted for even tension, will cause the beam to run out uneven.

Not over one pound of waste should be made. Griffin.

### Answer to Picker.

Editor:

Taking up Picker's inquiry, will say that he can stop his lap aprons from slipping by putting on a chain driving system. This gives the apron a positive drive in addition to the belt drive which becomes an auxiliary drive. A large number of mills have installed this chain drive and prevented lap aprons from slipping.

Chain Drive.

### Answer to S. C.

Editor:

Will top flats take off twice as much waste when they are operated twice as fast, is asked by S. C. I am among those who have tried this experiment, and I have found that they removed only ten per cent more waste on my class of work when speeded up twict as fast. The reason for this is that the top flats do not carry twice as much waste. They will carry only just so much waste.

Top Flat.

### Answer to Disgusted.

Editor:

On a 7-inch traverse "Disgusted" wants to know how to remedy the evils of having the ends breaking at the top of the bobbins, when he must have heavier ring travelers to prevent ballooning at the bottom of the bobbins.

I do not know all of the local conditions surrounding this matter, but will offer the following advice:

First, slow down the frames.

Second, shorten the traverse one-half inch or more at both the top and the bottom of the traverse.

Third, put on solid blade separators to protect the full length of the traverse.

Fourth, use larger bobbins to help out the tension at the top.

Fifth, have fast speed for the bottom of the traverse, and gradually slow down toward the top of the traverse.

Anyone of the above suggestions might help out sufficiently to prevent further difficulty.

Union.

### Answer to Insulator.

Editor:

To Insulator's question asking how fine can a good roving be made from drawing sliver weighing 56 grains to the yard, and can some be fed directly into 7x3 intermediate frames and made into yarn how fine? Will say in response, that with one inch middling cotton, two process of picking, single carding two processes of drawing with six into one feeding this sliver can be taken directly to 7x4 speeders, and it will make a fairly good grade of 1 60-100 hank roving. The draft will be a little over eleven. This roving can be placed directly into spining frames and spun into 10s to 12s yarn and make a good strong yarn. This roving will require 3 to 4 teeth more of twist than roving made with the slubber process. The yarn should also have 2 or 3 teeth more twist. This yarn will not possess a very smooth apearance, but it will be strong, and make good under or inner insulation work.

But a much higher grade yarn up to number 14s can be made in the same way, by adding the bale breaking process and using inch staple cotton middling to good middling cotton. This yarn will compare very favorably with the best full processes carded yarns, when due care is exercised. Advance.

## Institute Representative At Clemson

Clemson College, S. C. — General Walker D. Hines, president of the Cotton-Textile Institute, will send a special representative to Clemson during the summer session, it was announced here today. Numerous important conferences of cotton manufacturing leaders will be held while the course is in progress.

A specialist in coton classing has been detailed by the U. S. Department of Agriculture from their Board of Cotton Examiners to direct a four weeks course for cotton graders or beginners. Those who meet government requirements of experience and examination will be licensed as registered cotton classers. Those who desire to stand examination will be given an opportunity to do so at the close of the course. Many applications for this work have been received by W. H. Washington, college registrar.

# *The Fine Points of Carding*

## *A Series of Articles Contributed to a Prize Contest on This Subject*

### Number Nineteen

First, we will consider any make of a good card, made with screens fully adjustable, the card clothing numbered according to the numbers of yarn to be spun.

In the first place, the staple must be properly prepared in the picking system for the card in order that the card get justice in its operation, as the card can do only a card's part.

We will take medium fine numbers to dwell upon—40's and 50's, with 1 3-16-inch staple and vary from this according to numbers, grade and length of cotton.

Next, the numbers of wire. Card clothing, cylinder, 110 wire, doffer 120, flats 120.

Next, we will consider speeds. The speed of the cylinder is at 150 revolutions per minute. The reason for running at this speed is that by so doing we are able to obtain a closer setting, which is the most necessary thing to do good carding. The wire will hold a sharp point longer, there will be less flyings and better worked staple and a stronger web. The reduction of the speed of cylinder to 150 revolutions per minute automatically reduces the speed of the licker-in to the same corresponding speed of cylinder; also speed of flats.

Then, the speed of doffer should be according to quality and quantity of carding required. Will say that speed of doffer 5 turns per minute on 40's to 50's combed stock, 12 ounce lap, 42 grain card sliver, draft approximately 115.

Now we come to the setting or gauging of the different adjustable parts of the card. Will say, .007 is only .007 or .010 is only .010. We find card grinders so ready to say they set on tight or loose gauge. When we set tight or loose to gauge we do not know what we are set to. We will set feed plate to begin with, and with this in mind that there the staple first enters the card.

The licker-in in taking the fiber as it is fed in, it is very important to have a good smooth, sharp licker-in that will gauge accurately all around to feed plate so the licker-in will spread the fiber regularly on the cylinder.

The next setting is mote knives, which should be set to .007 of an inch. Pitch them or angle them so the motes, as they are knocked out by the ticger-in, will not hang on top or back of knife.

Next, we set screen under licker-in in first part or lip of screen to ⅛-in; further away for more flyings or closer for less flyings.

Next setting, screen to cylinder, .017; bottom of screen to cylinder, .029; front screen, bottom .029; top .022. Next set back plate to cylinder. Bottom to cylinder, .017; top, .022.

Next, we set bottom front plate; the bottom to .017, top of bottom plate, .012. Bottom of top front plate, .012, top of front plate .017. The amount of strippings to be taken out is governed by the setting of this front top plate; the closer to the cylinder the less strippings; the further off the more strippings.

Then, we set the flats. We will set front stand first to .009, second stand to .009, third stand .010 slack to gauge, fourth stand .012.

We next set doffer to cylinder to .007; then, set comb to doffer to .012. Watch the tension of the web; if too tight, lower the comb; if too slack, raise the comb.

In grinding cards, keep grinding rolls covered with 40's fillet, both traverse rolls and flat grinder. Put on new fillet about every 20th card, set rolls to strike a little fire evenly across. Do not grind card any longer than it takes to put a sharp point on wire. Keep rolls set to same depth at all times while grinding.

In conclusion I wish to say if one makes a good card man he **must** be possessed with a good sense of hearing and feeling.

### Number Twenty

If we do not know the condition of the card room, the first thing we want to do is to ascertain whether or not the cards are lined and leveled, as we cannot make accurate settings if they are not level and in line. We should see that the floor is well supported and free from vibration as far as possible because the settings cannot be maintained properly on a vibrating floor.

Card settings have been given much consideration and we are still

(Continued on Page 18)

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# *Three Methods of Dyeing Silk Hosiery*

By W. C. Dodson, B. E.

THE great increase in recent years of the manufacture of silk hosiery in the South has led to a keen realization of the importance of proper dyeing and finishing.

The average mill making seamless mercerized, rayon, or cotton hose seems to experience very little difficulty in the actual knitting of silk, for generally speaking, silk has good tensile strength, and after all it is simply another yarn to be substituted for the customary cotton yarn Knitters and fixers face about the same general problems with it as they are accustomed to, and production reaches satisfactory figures shortly after work begins.

However, even the best knit stocking is of no commercial value until it has been dyed; (or bleached), and finished, and the dyeing of silk presented problems rather different from those familiar to dyers who had been accustomed to the cotton and cellulose fibres. The few experienced men were by no means sufficient to meet the demands, and the dyestuff companies were quickly stripped of their best laboratory men even though these men were not always what might be termed experienced dyers.

In many cases the mills depended on their regular dyers being able to pick up the necessary information by costly experience. Today although there is no surplus of experienced dyers, most of the mills have secured men who are turning out splendid work. The old squib about there being only one right way to do anything may be true of most things, but it hardly seems to hold good in a silk dyehouse, as there are at least three methods in use today with numerous variations of each. Wherever one or the other of these is in use, the dyer and the management seem convinced that it is the only way. These three methods will be covered to the best of my ability, under the following headings:

(1) The Two Bath Method.
(2) The One Bath Method.
(3) The Acid Method.

It has been my experience that these various methods find favor in the order in which they are listed, with the great majority of the mills using the two bath method, and with only a very occasional case where the acid test method is used.

### Two Bath Method.

From all standpoints this method is the safest. Especially is this true where the dyer has had a comparatively small amount of experience, or where the dyer can't depend absolutely on his instructions being carried out by his men. So far as I know it has only one so called bad feature, and that is it requires from two and one-half to three and one-half hours to get a batch of goods through; as compared to one and one-half to two hours for the one bath method.

We will assume that the mill has modern dyeing machinery, and I mean by that good, rotary monel metal machines which have a perfectly smooth finish inside the various compartments or pockets.

To start with, the goods are weighed and sorted as to sizes. The bundles are then untied and the goods either shaken into nets or directly into the pockets of the machine.

When a full load is thus prepared, the machine is filled to the proper depth with cold (or warm water if the mill has a supply). The power is applied, and as the cylinder revolves the degumming agents are added.

If the water supply is good, i. e., soft and clear, either of the following formulas may be used, with percentages based on weight of goods.

(1) 4 to 6 per cent of a good white chip soap; 2 per cent silicate of soda. First dissolve the soap thoroughly in boiling water being sure there are no lumps or gummy particles left. When well dissolved, pour into machine and then add the silicate, which has been diluted with three or four gallons of hot water. Bring the bath to a boil and boil very gently for one hour.

(2- 4 per cent of a good white chip soap; 2 per cent silicate of soda; 2 per cent sulphonated castor oil. Proceed by dissolving the soap and diluting the silicate and oil.

(3) 4 to 6 per cent of good sulphonated castor oil; 2 to 4 per cent silicate of soda. In this case it is only necessary to dilute the ingredients before adding to the bath, as both are already in liquid form.

Although the time for boil-off operation is considered by many dyers as of no especial importance, I have always felt that it deserves and requires equally as much care as the actual dyeing. To give a few reasons for my views in this connection I will list what I consider some of the results of incomplete or improper boil-off.

Incomplete boil-off may show up later as spotty dyeings; I mean by that, goods which have spots, streaks, or splotches of a lighter shade than the balance of the piece. It may also result in level dyed goods containing two or more different depths of shade. This is usually termed shaded goods. Another and more common form of trouble from this same source is light shaded high splieced heels. The gum seems more difficult to remove when it is backed by the splicing yarn, and unless it is removed either during the boil-off or during the dyeing it is certain to cause this trouble.

Now as to improper boil-off. Assuming that we have used a good degumming agent or agents, such as outlined above, and that the bath has been kept up to temperature for an hour, it is still possible to ruin the goods by not properly finishing the operation.

If possible it is always desirable to have a small amount of water constantly entering the bath during the hour. This is to insure the bath flooding over. This flooding carries off a great deal of the loosened gum all during the run. Whether this is done or not however, be sure to thoroughly flood the bath before rinsing.

Let the cylinder continue to revolve and open the steam and water valves. Let this go on for about ten minutes. Then drain the bath and refill machine with warm water. If no warm water is available, heat this first rinse up to 120 deg. F.—140 deg. F., and let it flood over slowly for another ten to fifteen minutes. Drain and give a second rinse with water about 110 deg. F.—120 deg F. Run this for ten to fifteen minutes also.

The goods should now be in a good clean condition, and they are then taken to the extractor and whizzed about five minutes. Take out and thoroughly shake up so as to be sure there are no tangles.

Reload into machine and fill machine to proper depth with cold water. Heat this bath to about 110 deg. F. and add 1 per cent to 2 per cent of a good sulphonated castor oil, letting the cylinder revolve for about five minutes at 110 deg. F.

Now enter the dyestuff which has been thoroughly dissolved and if possible strained through a fine cloth. Make sure that the dye is diluted to at least 4 gallons with warm water—8 gallons would be that much safer. And pour this solution in slowly and steadily with the cylinder revolving toward the dyer.

Let the cylinder turn in the dye liquor at 110 deg. F. for five minutes, and then open the steam valves so as to bring the bath to a boil in fifteen minutes. Boil gently for thirty minutes and add slowly the amount and kind of salt recommended by the dyestuff manufacturer for each particular shade. Remember, however, that salt business can cause a raft of trouble if the dyer isn't careful.

Run in the salt bath for fifteen minutes and sample. If your shade is off, that is another story and the dyer must then decide how best to bring it to his sample, or whether to re-dye it black, or whether to strip and start all over again.

So far as the method goes, it is all right for the average all silk or half silk stocking, and for the average dyehouse.

There are of course, exceptional conditions occasionally, such as hard water, chemically impure water, bad silk, etc., and no general rule will fit such cases.

### Single Bath Method.

Now for method number two, or the single bath method:

First weigh your goods and untie the bundles, shaking the goods loosely into nets or into the various pockets of the machine.

Fill the machine with water and heat to 110 deg. F. Then add 6 per cent to 8 per cent of a good degumming oil. This is usually a sulphonated castor oil with silicate of soda and possibly other solvents or detergents added by the manufacturers.

Let the cylinder rotate for about ten minutes in the oil bath at 110 deg. F., and then add the dyestuff which has been dissolved, strained and diluted as described above.

When all dyestuff is in the bath, open the steam valve and raise to a gentle boil in fifteen to twenty minutes. Maintain this temperature for forty-five minutes and sample. If the color is going on evenly, salt may then be added. Now run for fifteen minutes more and sample again.

If the dyestuff formula has been correct the goods should now be up to shade.

Assuming that they are, then begin feeding in cold water so as to flood off all scum. Continue this for about ten minutes, being sure to flood all during this period. This covers the general principles and practically all the details of the one bath method.

As in the case of the two bath method, much will still depend on the dyer; such as determining when his goods are up to shade, etc.

The matter of using salt with any method is open to question. Some dyers so develop their formulas as to require no salt whatever, and if this can be done it is to be preferred. Lots of good hosiery has been ruined through consequent re-dyeings which were largely attributable to the improper handling of salt.

### The Acid Method.

This method is seldom encountered. By most dyers and dyestuff people it is considered rather hazardous, but I have seen some extremely fine work done with it. It is quite likely that this method gives a better fastness of the silk colors than can be achieved by the other two methods. I have never seen any comparative fastness tests made, but it would seem that this method would give better results, for various reasons that aren't worth discussing at this time.

First, degum the goods as in the two bath method for this method also requires two baths.

However, after rinsing once following the degumming, refill the machine with cold water, and add about 400 c.c. (per 100 pounds of goods), of concentrated acetic acid which has been diluted with two to four gallons of cold water.

Run in this bath for ten minutes and drain. The goods should then be whizzed and shaken out before reloading into the machine. Refill machine and warm the bath to 110 deg. F. Start cylinder revolving and enter the previously dissolved and diluted dyestuff as outlined in the two bath method.

Run for ten minutes at 110 deg. F., and raise temperature to a gentle boil in fifteen to twenty minutes. Boil for forty-five minutes, and then add slowly 200 to 300 c.c. acetic acid (per 100 pounds of goods) being sure to dilute the acid with two to four gallons of water. Run twenty minutes more at a boil and sample.

In conclusion: In none of these methods will the dyer be able to accept just any dyestuff formula as sent him from a laboratory. He will have to correct the amounts of the various colors constantly until he has what is generally called a "standardized formula," and even

(Continued on Page 25)

# *Here's the Reason Why*

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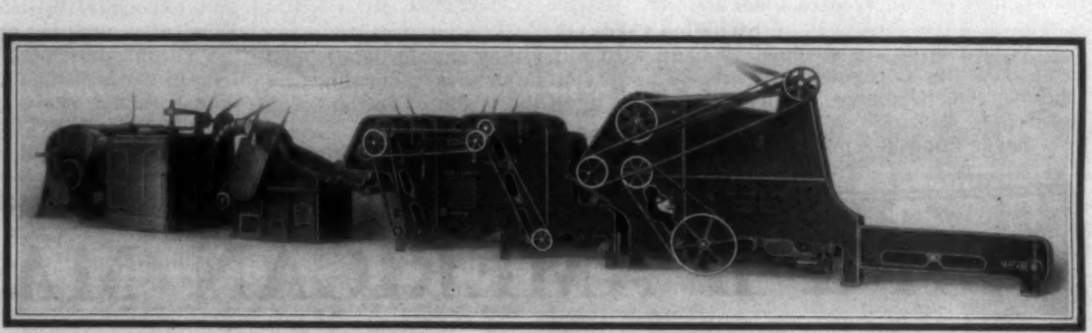

THE mills of this country are beginning to realize more than ever before that the Opening and Cleaning process is of vital importance in the spinning of yarn; and that it is one in which there is a great opportunity to lower costs.

**The Saco-Lowell Shops Have Been The Leaders**

of this country in developing improved methods of opening and cleaning cotton. Within the last three years we have put on the market a number of new machines, and at the same time have redesigned and added many important features to the old ones.

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# SACO-LOWELL

*Largest Manufacturers of* *It pays to Install Modern Machinery* *Textile Machinery in America*

## The Fine Points of Carding

(Continued from Page 15)

thinking along that line. We all have our own opinions as to setting a card and I am not complaining because the other fellow's opinion may differ somewhat from mine. I do not believe in a combination of standard settings, but in an individual standard. By this I mean that each mill should have a standard setting, depending upon the quality desired in the finished product. My idea of a medium through which we may determine a standard of settings is as follows: Doffer to cylinder .005; flats to cylinder, .007; licker-in to cylinder .005; top mote knives to cylinder .005 and about 16 degree angle; bottom mote knives to licker-in .010 and about 16 degrees angle; licker-in screen to licker-in .029; cylinder screen to cylinder, point toward licker-in .012; middle point .032, point towards front ¼-inch; back plate to cylinder at point toward edge .030; front plate to cylinder, upper edge.022.

### Speed and Draft.

Speed of cylinder should be about 170 r. p. m. and speed of licker-in about 370 r. p. m. The draft on cards should be about 110.

### Grinding.

Cards should be ground and set about every 10 days where the mill is run day and night. I prefer light grinding to heavy grinding, as heavy grinding has the effect of splitting the teeth on cloth. The length of time for grinding is determined by the condition of both the teeth and the grinder roll. Under ordinary conditions about 10 hours is required for grinding.

We should have a dependable man in charge of grinding and setting the cards. Bear in mind that every man who picks up a gauge and a wrench does not know his business.

### Suggestions.

I suggest that when a licker-in becomes dull or the teeth broken and bent, take it out and send it to the shop for rewinding. When clothing becomes loose on cylinder or doffer have it tightened by rewinding. The clothing must be kept tight for good carding. When the flat chains become loose the slack should be taken out. Allow only a reasonable amount of slack, take out an excessive slack.

### Stripping Cards.

Where cards are stripped by hand with roller they should be stripped systematically at regular intervals. This of course must be determined by the overseer in charge. It depends largely upon the grade of cotton being used.

Never allow the man at the machine to use a fanboard to fan front of cards or a blow pipe to blow off the front as this causes an accumulation of fly and foreign matter on the web which is drawn into the sliver.

### Splicing Up Ends.

Teach the man at the card to properly join the ends of the laps together. When starting a lap through under feed roll no overlapping should be allowed. Require the man in charge to properly splice all slivers that are broken at the front of card.

### Static.

Static electricity often causes a great deal of trouble. The proper relative humidity will help overcome this trouble. For mills that are handicapped by not having proper humidity control, I shall try to give a very simple and inexpensive method of eliminating static electricity. It is as follows

Run a ¾-inch steam line through the room at back of cards, suspended about 6½ feet above the floor. The pipe should have holes ⅛-inch in diameter bored in it about every 10 feet, all of the holes being toward the floor. When static appears, simply turn on the steam for a few minutes and static will disappear as if by magic.

In conclusion I will say that I have tried to give my ideas on the fine points of carding, which I readily admit are very limited. Realizing from the outset my inability as a writer I ask the readers to bear with my feeble efforts.

Wabash.

## Number Twenty-one

The opening of cotton is one of the most important processes in the manufacture of cotton yarns and should have the careful attention of the overseer. He should also have a reliable man to see that his instructions are carried out. It is not good policy to crowd any kind of opening machinery. When it is crowded there is likely to be cotton that is not cleaned as good as it should be. There is also a tendency to roll the cotton, causing more neps and there are surely enough neps without taking chances of making more.

The cotton should have a quick and free passage through the vertical and horizontal opener, with the proper air current to prevent lagging. When it is possible cotton should be opened up and aired before running.

I think most people know the advantage gained by the airing of cotton.

On the breaker picker I use a Kirshner beater first, then a blade beater. The Kirshner beater makes 870 R. V. P. M. The blade beater makes 1100 to 1150 R. V. P. M. On these machines I see that they are kept clean with

(Continued on Page 26)

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ESTABLISHED 1865

The HOUGHTON LINE

## "Straws show which way the wind blows"

**An observation by**

*Chas. E. Carpenter,*
Near Editor of The HOUGHTON LINE.

VIM LEATHER BELTING is neither oak tanned nor vegetable tanned but is described best by a noted physicist as "A special mineral tannage."

It is not an invention of The Houghton Research Staff but of the most successful leather manufacturer of all time—The late Hon. Robert H. Foerderer, the inventor of VICI KID, in which invention Mr. Foerderer revolutionized the manufacture of shoes. In fact the original VIM Leather Belt was called "VICI."

No one, now-a-days, wears a shoe made of vegetable tanned upper leather. It would be almost impossible to find a pair of such shoes in stock. This is because the VICI process produces a much stronger, more durable, more elastic and less stretchy leather. The VICI process is a mineral process and the VIM process is a mineral process.

You have perhaps noted that during the last few years—say since the close of the war—one by one the manufacturers of vegetable tanned leather belting have either gone out of business (one of the oldest and largest being in process of liquidation at the present time) or have specialized on a "special tannage."

That is to say the straws seem to indicate that vegetable tanned leather belting is rapidly giving way to belting made of special tannages.

While to the best of my knowledge VIM is the only special mineral tannage thus far successful, there is a reason for this, of course. The regular chrome tannage is a mineral tannage, but it is not a "special" tannage.

The belt user is ofttimes confused by the varying claims and arguments of leather belting salesmen and advertisements, and it is only by the exercise of his own judgment that the belt user may arrive at the truth.

I submit this well known fact, that all prosperous leather belting makers are now featuring a "special tan," as evidence of which way the wind is blowing.

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SOUTHERN
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## Southern Textile Association

AS the time draws near for the annual meeting of the Southern Textile Association, we wish to again say a word in appreciation of the invaluable work that this organization is doing for the textile industry of the South.

The membership of the Southern Textile Association is drawn from the superintendents and overseers of the Southern mills, the men who have charge of the actual machinery operations. It is their duty and responsibility to see that the machinery is operated on an efficient and economical basis. Their common problem is to maintain quantity and quality production at a minimum cost. To meet this problem they have banded themselves together under the very sensible idea that the efficiency of the individual can be increased by giving him all the knowledge of the group. In short, the association functions as a clearing house of technical information. When any member meets with technical difficulty in his daily work, he can carry it to the association with almost certain assurance that the answer to his question will be given.

The technical work is being carried out through the sections or groups of the association, where it is handled in a thoroughly practical manner through the round table discussion plan. From a small beginning, these sections have steadily increased the scope of their usefulness and service. Their work is actuated by only a single motive—to find the best way to carry out every operation in the production of yarn and cloth.

The activities of the Southern Textile Association, during the past year, have been augmented through the establishment of a research organization, the Arkwrights. Membership in the latter is based upon the ability to successfully complete some test in textile research that is assigned each prospective member. In the short time that this work has been under way, 81 men have gained membership through completion of research work that is proving a real contribution to the textile industry.

The members of the Southern Textile Association have, of course, benefited immeasurably through their affiliation with the organization. At the same time, the mill owners have received even greater returns from the work. The savings in dollars and cents that has come from more skillful and economical operation of the mill machinery has gone to the mills, not the superintendents and overseers.

The work of the association has been carried out at practically no expense to the mills. The association has asked but little of the mill owners. A goodly number of the mills are now paying the small annual dues of their superintendents and overseers. Many others are not and have, in fact, given the association no recognition whatever.

The Southern Textile Association has already accomplished more than enough to earn the appreciation and gratitude of every mill in the South. It is entitled to a far greater measure of support than has been accorded it.

Every mill executive in the South has had ample opportunity to observe the work of the association. He knows, or should know, that the membership is constantly striving to improve the operating efficiency of the machinery of the mills. For that reason, we urge that each mill official interest himself to the extent to seeing that his superintendents and overseers are members of the association and are given every encouragement to share actively in its work.

As we said above, the Southern Textile Association has asked but little of the mills. Therefore the little that it does ask should be given freely and cheerfully, for after all it can be given with the knowledge that it is not really a gift, but an investment.

## Service

THE measure of a man's value to the organization that employs him is not always found in the actual performance of his duties. It often goes much further. His attitude toward his work, both on and off the job is often one of the real secrets of his worth.

We have in mind an overseer of spinning, a spinner of unusual ability who runs his job well. This man's interest in his job does not stop when the whistle blows. He is interested not only in his own work, but that of the men under him and in increasing their value to the mill and their own chances of success. For some years, it has been his custom to give annual subscriptions to the Southern Textile Bulletin to some of his section men. His idea is to encourage them to learn more of their work, multiply their chances of success and to give the mill the benefit of their increased knowledge.

We recently learned that one of these section men who has been receiving this paper for several years was unable to read when his subscription started. His paper was read to him each week by his wife. He became interested enough to discuss what his wife read him with his overseer. Later came the realization that he was seeing the world through half-closed eyes. He has learned to read.

This is cited simply as an instance where an overseer has seen beyond the limits of his daily routine. He has served over and above his pay. His desire to help his fellow employees has resulted in changing the whole outlook upon life for at least one of them.

It won't be long now before we have an opportunity to recommend this overseer of spinning for a much better position than he now holds. It will certainly be a pleasure to do so.

## Style Is the Keynote

THE very valuable work that the Association of Cotton Textile Merchanes of New York has been doing for the textile industry through its statistical service has for some time been receiving the recognition it deserves.

The association has recently sponsored a new service directed toward increasing the consumption of cotton goods. It has arranged for a series of weekly radio talks, through Station WEAF, New York, pointing out the desirability of cotton goods for women's clothes. These talks, made by Miss Maida Davis, fashion expert, contain no appeal to wear cotton through patriotic or philanthropic motives. Miss Davis is simply telling the women of the beautiful and stylish effects that have been achieved in summer dresses from cotton goods. The idea is to create a demand for cotton through style appeal to show that cotton dresses are not only beautiful but stylish.

We have never felt that the women of the country could be induced to wear more cotton simply in order to help the cotton planters or the manufacturers. When style and patriotism meet, bet on style. The womanly sense of duty doesn't extend to clothes.

When cotton is more stylish, more women will wear it.

## The Alexander Medal

S. B. ALEXANDER, Southern manager of the Crompton & Knowles Loom Works, last year presented a handsome gold medal to the member of the Southern Textile Association who was designated by that body as having rendered the most valuable service to the industry during the year.

The first medal was given to F. Gordon Cobb, of Lancaster, an honor which Mr. Cobb richly deserved.

In announcing his desire to present this medal every year, Mr. Alexander makes it known that it is not to be an empty honor. The recipient of the medal must earn it. It will be given only when unusual and outstanding service is performed. Its award will be accompanied by a definite statement of the service that has been rendered by the man who receives it. While Mr. Alexander hopes that the medal can be presented annually, it will not be given except as a testimonial of distinguished service.

Every member of the Southern Textile Association is eligible to receive the Alexander medal. Before any member can receive it, his fitness for the honor must be clearly established through the performance of some service that can be rightly termed a real contribution to the textile industry.

It is entirely fitting that Mr. Alexander should give the medal only under the conditions outlined above. His desire is to bestow honor where honor is due, not merely to give a medal each year.

Mr. Alexander has chosen a particularly appropriate manner in which to recognize the service of the Southern Textile Association and is certainly to be commended for his action.

It was expected that the Alexander medal would be presented at the annual meeting of the association this month, but it is thought that the board of governors will ask that the presentation be delayed until the fall meeting so that more time and study can be given to the selection of the man who is to receive it.

# Personal News

E. D. Estes is now superintendent of the Unity Cotton Mills, LaGrange, Ga.

J. J. Ward has resigned as night overseer of carding at Thos. Henry & Sons, Nashville, Tenn.

T. H. Frost is now superintendent of the Strowd-Holcombe Cotton Mills, Birmingham, Ala.

E. W. Sharp is now assistant superintendent of the Kilby Cotton Mills, Montgomery, Ala.

T. H. Floyd has become superintendent of the Tallassee Mills, Tallassee, Ala.

W. G. Nichols has resigned as general manager of the Griffin Manufacturing Company, Griffin, Ga.

—. —. Ray is now manager of the cotton department of the Atlanta Woolen Mills, Atlanta, Ga.

B. M. Bradley is now superintendent of the Beaver Mills, Middleton, Ga.

J. R. Plunkett has resigned as general superintendent of the Ensign Cotton Mills, Forsyth and Hampton, Ga.

Arthur H. Lowe, of Fitchburg, Mass., has succeeded W. M. Allen as treasurer of the Delta Land Cotton Mills, West Helena, Ark.

John H. Barnes, Jr., has succeeded John Tomlin as superintendent of the Fuller Hosiery Mills, Carrollton, Ga.

C. T. Christian is now superintendent of the Dallas-Noval Yarn Mill, formerly the Liberty Cotton Mills, Dallas, Ga.

B. J. Boddie succeeded Charles S. Adams as superintendent of the Lullwater Manufacturing Company, East Point, Ga.

Wm. H. Turner is now vice-president and general manager of the Hillside Cotton Mills, LaGrange, Ga.

F. M. Swirles has succeeded J. D. Bradwell as superintendent of the Washington Manufacturing Company, Tenille, Ga.

Preston Newell has been appointed superintendent of the Aponaug Manufacturing Company, Kosciusko, Miss.

W. P. O'Pry has accepted the posititon of night superintendent of the spinning mill of the Delta Land Company, West Helena, Ark.

T. H. Howard, from Greer, S. C., has accepted the position of second hand in weaving at Chadwick-Hoskins No. 1, Charlotte.

Dan Johnson has resigned as overseer of carding and spinning at the Quitman Mills, Quitman, Ga., to become night overseer of carding at Thos. Henry & Sons, Nashville, Tenn.

R. J. Brown has resigned as general manager of the Bamberg plant of the Santee Mills, Bamberg, S. C.

C. E. Buck has resigned as treasurer of the Nick-a-Jack Hosiery Mills, Chattanooga, Tenn.

L. P. White has succeeded O. Waldkirch as treasurer of the Warioto Cotton Mills, Nashville, Tenn.

Thomas McCown has resigned as superintendent of the Franklin Hosiery Mills, Winchester, Tenn.

J. J. McGrary has become manager of the Willinca Cotton Mills, Marietta, Ga.

B. G. Stumberg is now superintendent of the Anchor Duck Mills, Rome, Ga.

D. O. Bryant has been appointed superintendent of the Roswell Mills, Roswell, Ga.

J. E. Howell has become superintendent of the Lullwater Manufacturing Company, Thomson, Ga.

R. F. Hulsey has accepted the position of overseer of carding at the Pomona Mills, Greensboro, N. C.

G. A. Bradley has resigned as superintendent of the Jewel Mills, Jewel, Ga.

I. N. Dunn, general manager of the Santee Mills at Orangeburg, S. C., has also been given charge of the Santee plant at Bamberg, S. C.

Jesse T. Quarles has been promoted from second hand in carding to general overseer of carding at the Mobile plant of the Standard Textile Products Company, Mobile, Ala.

Walter F. Whaley, who has been general overseer of carding at the Mobile (Ala.) branch of the Standard Textile Products Company, has been transferred to one of the eastern mills of the company.

G. W. Chaney has resigned as overseer of weaving, slashing, spooling and cloth room at the Nokomis Mills, Lexington, N. C., to become overseer of weaving, slashing and cloth room at the Draper-American Mills, Draper, N. C.

John B. Cornwall, a graduate of the textile department of N. C. State College, has accepted a position with the Walter C. Taylor Company, of Charlotte, as sales agent for rayon and thrown silk. Mr. Cornwall will handle the South Carolina and Georgia territory.

W. T. Grant, Southern manager of the United Chemical Products Corporation, who has been ill at his home in Charlotte for the past several weeks, entered the Charlotte Sanatorium for an operation this week. His condition has been showing gradual improvement and it is expected that the operation will effect his early recovery.

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# MILL NEWS ITEMS OF INTEREST

**Opp, Ala.**—The Opp Cotton Mills is having plans prepared by Robert & Co., Atlanta, for an addition to its plant, 106x215 feet, brick, to cost about $50,000. The addition will have 5,000 spindles and 160 looms, operated on sheetings. The mill at present has 4,992 spindles and 160 looms.

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**Burlington, N. C.** — Construction work on the Carolina Silk Mills, Inc., recently organized here by J. Spencer Love, president, W. R. O'Hara, vice-president and A. Glenn Holt, treasurer, has been started and it is expected to be completed in August. The new mill will have 100 looms on silk, rayon and mercerized mixtures.

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**Newberry, S. C.** — The Oakland Cotton Mills, Newberry, S. C., are extending their village by construction of 55 additional houses. E. S. Draper, landscape architect and engineer, Charlotte, N. C. R. T. James, resident engineer, in charge of grading of streets, house sites, etc.

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**Chadbourne, N. C.** — The Chadbourne Cotton Mills, recently organized here as noted have leased a building and will install 6,000 spindles and 40 dobby looms for making bedspreads and damask. D. R. Connor and F. T. Brunning are the principal stockholders. The product will be sold through Clark-Richards Co., New York.

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**Gainesville, Ga.** — All buildings have been completed, machinery has been practically all installed, and everything is in readiness for the opening of the big Chicopee Mills here. The plant is equipped with 40,000 spindles and 2,000 looms and will be devoted alomst exclusively to the manufacture of surgical gauze for the Johnson & Johnson Company.

Equipped with electric motors, the mills are as modern as is possible to make them, and this applies not only to the mill buildings themselves but to the newly constructed mill village.

Edward A. McCormick is in charge of the new Chicopee Mills.

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**Greenville, S. C.**—Plans are being drawn by J. E. Sirrine & Co., mill engineers, for the proposed plant of S. Slater & Sons, to be located at Marietta, 15 miles from this city.

The main building will be two stories in height, but the exact dimensions have not yet been decided. After the plans are completed a statement will be made as to the amount of machinery, etc., to be installed. It was stated at the time the first public announcement was made that the plant would contain 300,000 spindles and would cost around $2,000,000.

Indications are that actual work on the project at Marietta will begin in August, no railway facilities being available before that time. The date has not been named for the letting of the contract for construction.

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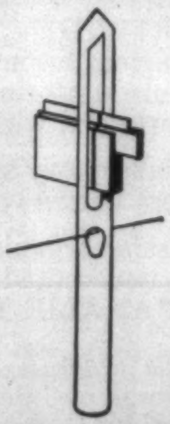

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**Elberton, Ga.** — The contract for building 46 additional residences on the property of the Seaboard Silk Mills has been let in Atlanta at the offices of Roberts & Co., architects. Batson Cook Co., West Point, Ga., where the successful bidders. The contract price is in excess of $100,000.

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**Covington, Va.** — Stoughton & Mathers, architects, builders and engineers, of Covington, Va., have been awarded the contract for building an addition to the Schwarzenback-Huber Company's silk mill at Covington. The addition means an added output of at least 25 per cent, fifty additional looms being installed, according to Fred Aichelman, manager. The present recreation rooms will be used for the installa- of the looms and an addition will be built to the mill that will take care of the recreation features in the future.

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**Greenville, S. C.** — The Union Bleachery & Finishing Company will retire its preferred stock issue of $400,000 on July 1, it has been announced by J. W. Arrington, president of the company. Decision to retire the stock was reached at a meeting of the company's directors, Mr. Arrington said.

This is the only preferred stock issue of the company, which also has $1,200,000 of common stock. Stock brokers predict the bulk of this sum will be reinvested here in textile stock. The disbursement of this sum will, they predict, cause a revival of trading in various Southern mill stock.

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**Kinston, N. C.**—A new company, capitalized by Kinston interests, will operate the Kinston Cotton Mills. Birch Douglas, agent for the unnamed group, purchased the plant at an auction sale May 30 last. The price was $6,200 above the assump- of a $215,000 mortgage. In the opinion of authorities, the plant is worth well over $221,000.

Plans of the Kinston purchasers are being rapidly developed but details are withheld for the present. It is the understanding here that holders of second mortgage bonds will be given the privilege of exchanging them for common stock. The Kinston Mills were in the hands of a receiver for several months after the owning company's failure early this year.

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**Union, S. C.**—At a meeting here stockholders of the Dainty Maid Silk Mills discussed plans for the operation of their plant and formally organized with the election of officers and directors. Application will be made at Columbia for a charter a once. The capital of the mill is $150,000.

Women's underwear and glove silk will be manufactured and the mill will be equipped to use silk imported from Japan and also rayon. A building, formerly used by the

Union Progress, a newspaper, has been leased and renovated for the plant, and most of the machinery has arrived and has been installed. It is expected that the mill will be operating within a short time, according to L. E. Winnie, vice president and secretary.

The board of directors elected is composed of R. L. McNally, F. H. Garner, C. M. McWhiter, J. Roy Fant, Emslie Nicholson, W. S. Nicholson was selected by the board as president and treasurer and Mr. Winnie as vice president and secretary.

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**Chickamauga, Ga.** — Sale of the Crystal Springs Bleachery Company to a new corporation to be organized by D. A. Jewell, president of the present company, will be acted upon by the stockholders at a special meeting called for June 15.

Notices outlining the proposal have been mailed to stockholders, it is understood. The proposed new organization will be capitalized at $2,000,000 of which $1,000,000 will be common and $1,000,000 preferred stock. It is understood that it is proposed to purchase the common stock of the present stockholders on a basis of $150 per 100 share cash, or may be exchanged for common stock in the new corporation.

Under the proposed plan all the common stock will be held by Mr. Jewell and members of his family. D. A. Jewell, Jr., is vice-president, E. Y. Chapin, secretary and R. H. Jewell, treasurer, of the firm.

The bleachery company has had an especially fine records and has enjoyed unusual growth. On January 1, the company declared a 100 per cent stock dividend, which means that those who originally put money in the company will now receive $280 for every $100 invested. In addition to the attractive dividends received during the intervening years, it is understood that there are a comparatively small number of stockholders, most of the stock being held by the Jewell interests.

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### Receivership Asked for Rhyne-Anderson Mills.

The Rhyne-Anderson Mills, of Troy, N. C., have filed a voluntary application for receivership, the action being taken following a special meeting of the stockholders held in Charlotte on Wednesday, according to information from Wellons and Wellons, attorneys.

The petition asks that Wesley T. Heath, of Charlotte, president of the company and Milton Ensor, of Troy, manager, be named as receivers.

Information given in a statement from the officials to the stockholders stated that the outstanding indebtedness of the company is approximately $60,000, this amount being in the form of notes.

The Rhyne-Anderson Mills have 5,000 spindles on medium numbers of carded yarns.

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## Ga. Association Considers Village Improvement

Macon, Ga.—Directors of the Cotton Manufacturers' Association of Georgia held the first meeting here since the new board was chosen. The attendance was the largest of any meeting ever held by that board.

The directors gave approval of the plan suggested by W. D. Anderson, chairman of the board, in his address before the national association recently, for more work in the mill villages, looking toward improvement of the conditions and relations between the employees and mills. A number of committees were appointed to carry on the work, but it was stated that only routine business was discussed. Following the business session, there was a luncheon at Hotel Dempsey.

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## Southern Textile Association Meeting

A very large attendance is expected for the annual meeting of the Southern Textile Association to be held at Kenilworth Inn, Asheville, N. C., on June 17 and 18. With one of the most interesting programs ever arranged for its annual session, Secretary J. M. Gregg is expecting an unusually successful meeting.

The program as previously given in these columns provides for a morning session on Friday, June 17, with the afternoon open and a dinner in the evening. The business session will be held Saturday morning at which time new officers will be elected.

W. H. Gibson, president of the association will deliver his address at the opening of the first session. His remarks will be followed by the reports of the chairman of the Sectional Divisions of the association. Richard G. Conant, of the Boston office of Wellington, Sears & Co., will then speak on "The Buyers' Viewpoint in Purchasing Goods and the Selling Value of Quality and Uniformity of Product." At the conclusion of this address H. G. Winget, of Gastonia, will speak on "Human Relations in the Industry."

Friday afternoon will be devoted to golf and other recreation and amusement features.

At the business session Saturday morning, there will be short talks by J. M. Gamewell, president of the North Carolina Cotton Manufacturers Association, J. C. Evins, president of the South Carolina Association and W. H. Hightower, president of the Georgia Association. Geo. S. Harris, president of the American Cotton Manufacturers Association, who was scheduled to speak at this time, will be unable to be present.

One of the features of this session will be the address by George A. Sloan, secretary of the Cotton-Textile Institute.

After the address and the report of the secretary, will be the election of officers.

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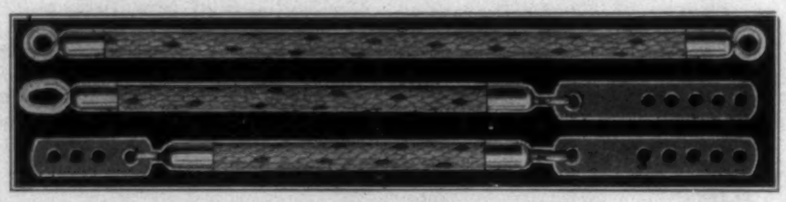

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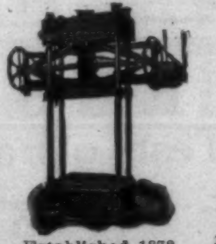

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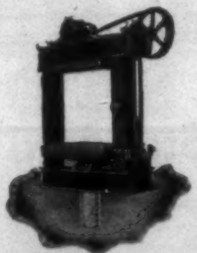

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# *Arkwright Test Compares Draft in Spinning*

A test to compare the results of a draft of 11 and a draft of 14 in spinning hosiery yarns was recently completed by L. O. Bunton, superintendent of the Ruby Cotton Mills, Gastonia, N. C. This test was made by Mr. Bunton to qualify for membership in the Arkwrights. A summary of the test is given below.

(Prepared and submitted by L. O. Bunton, Supt., Ruby Cotton Mills, Inc., Gastonia, N. C.)

## TEST

Test to show comparison of results of 11 draft and 14 draft on 40/1 Hosiery Twist Yarns made from 1⅛ inch cotton.

Conditions of Tests—All known factors were identical to fine roving frames. At this point two numbers of roving were made, viz., 5.50 H. R. and 7.14 H. R. The tests on spinning were made on frames side by side with the same specifications, twist, travelers, speeds, etc., the only difference being the draft gears. The test bobbins were taken from both frames at same doff. Weighing and breaking was done in office with no artificial humidity, and other weighings show a consistent breaking weight of three pounds more in mill than in office, but as all tests were made in office the difference in humidity does not effect the comparison between effects secured by different drafts.

Weighing was done on Torsion Balance, and Breaking Tests were made on Scott vertical power testing machines.

As tests were made at about the equinox, there was some variation in weather.

Cotton—Full 1⅛ inch Strict Middling. During the time of test a change was made from old crop Delta to new crop California.

Opening and Picking System—Opening Room contains bale breaker and Murray Cleaner. Cotton conveyed from Opening Room to Picker Room by air. Breaker Picker has three-blade beater, Intermediate and Finisher Pickers have Kirshner Beater.

| Machine | Weight | Draft | Doubling | Twist |
|---|---|---|---|---|
| Picker | 13 Oz. Lap | | | |
| Card | 49 Gr. Sliver | 116 | 1 | |
| Sliver Lap M. | 544 Gr. Lap | 1.8 | 20 | |
| Rib. Lap Mch. | 544 Gr. Lap | 4 | 4 | |
| Comber | 50 Gr. Sliver | 87 | 8 | |
| First Drawing | 51 | 5.9 | 6 | |
| Second Drawing | 51 | 6 | 6 | |
| Slubber | .77 H. R. | 4.7 | 1 | .82 |
| Intermediate | 1.80 H. R. | 4.7 | 2 | 1.4 |
| Roving | 5.50 H. R. | 6.1 | 2 | 2.5 |
| Roving | 7.14 H. R. | 7.8 | 2 | 2.9 |
| Spinning | 40/1 | 11.21 | 2 | 19½ |
| Spinning | 40/1 | 14.54 | 2 | 19½ |

## SUMMARY

| | Size | Break |
|---|---|---|
| Average 400 Bobbins 11.21 Draft | 40.27 | 48.60 |
| Average 400 Bobbins 14.54 Draft | 39.25 | 49.55 |

## BALANCED NUMBERS

| | 11.21 Draft | 14.54 Draft |
|---|---|---|
| 39s (on the mark) | 50.54 Av. Break | 51.08 48 Bobbins Each |
| 40s (on the mark) | 48.13 Av. Break | 48.55 63 Bobbins Each |
| 41 (on the mark) | 47.70 Av. Break | 47.74 |
| | Av. 48.79 | Av. 49.12 |

Conclusions and Deductions from Summary and other aspects of Test:

The B. W. of the two yarns practically the same when numbers are identical.

Blackboard Tests seem to indicate there are slightly more thin places and much less slugs in yarn made with long draft. However, this is not definitely conclusive.

As it is somewhat cheaper to make yarns with long draft and the breaking strength is not effected by this test, I consider the long draft the more efficient under the conditions of this test. However, there are many other factors that enter into making yarn, and thes long draft would not be more efficient under all conditions.

As the total draft between the Intermediate and spinning frame are the same both ways of the test, there is a possibility of that there is an excessive draft in each case, but in a different process. A shorter or longer draft on both processes (Roving and Spinning) might show different results.

Instead of this test showing any startling figures or very definite results, it merely opens up other lines of investigations, and forms a basis for further tests.

The above test is submitted as to findings from this applicant. The results are not intended to be conclusive, as The Arkwrights expect to compile numerous similar tests from others in different sections and under different local conditions to arrive at a conclusive result before announcing a definite conclusion.

The Arkwrights welcome criticism and suggestions of the methods used in making this test.

# Opportunities for Textile Engineers

Speaking before a body of students in engineering in Cornell University Jaes W. Cox, textile engineer and specialist of New York, pointed out the many opportunities that lie before young men who wish to enter a field that is by no means crowded and that offers studious and inventive minds a standing and remuneration that is not easy to find equalled in other professional lines at this time.

First, taking up the subject of the type of buildings used for textile plants, he showed the development from the old stone mill to the modern slow-burning construction and concrete types, explaining why, as a general rule, the slow-burning construction is favored. He stated that the development of mill buildings had progressed exceptionally well, and although improvements would be made, no radical changes would probably result in the near future.

### Power.

Taking up the matter of the generation, distribution and consumption of power, Mr. Cox explained the transition from the old type mill obtaining its power from a small, direct connected, old-fashioned water wheel to the present day method of electric drive, whether by department, groups of machines or individual application. He explained how a textile power load might vary anywhere from a 98 per cent power load only for a cotton mill in the South to a 84 per cent process load for a finishing plant in the North.

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He stated that he believed improvement in the application of power would not be so rapid in the near future as in the past and would be general as in other industries.

In discussing the development of textile machinery, he explained how the principles had changed but little, but how a majority of the machinery manufacturers in the last ten to fifteen years had changed their products to a machine tool instead of the old hand building job. He further explained that he believed progress would be made in the near future, bath as to refinement of design of the present machinery, methods of making it, and even the development of machines employing entirely new principles to produce a certain result. He stressed the fact that most of the machinery in use today employs the same basic principles as the most elemental machines hundreds of years ago, and showed the few exceptions in radical design and what they had done for the textile industry. He predicted a great opportunity for an engineer who could make some important improvements in textile machinery.

In discussing equipment, Mr. Cox called attention to the fact of the progress which had been made in equipment to put in or on machines. He pictured the remarkable advance in the line of heddles, artificial humidification, use of compressed air, conveyors, stop motions, temperature controls, speed indicators, counters, tension devices, etc., and what an important part they play in the progressive mill of today. He stated he thought there was a big field for a bright engineer along the lines of this kind.

In discussing processing, brief mention was made of the methods and care necessary in converting fiber into fabric. This part of the talk was illustrated by moving picture, "From Cotton to Cloth," produced by the McCampbell department of Harding, Tilton & Co. Mr. Cox explained how most processing in the industry was still done by rule of thumb methods and gave instances of the tremendous improvements in product, increase in production, and reduction in cost by proper and controlled methods. Mr. Cox stated he thought there was a tremendous opportunity in this line for a young engineer.

Concerning management, he spoke of the need of trained engineering minds in the mills, and told of the keenest organizations putting the management of their plants in the hands of better trained individuals than formerly. He then spoke of the cost of a specific article and how much better it was to know beforehand and definitely control the cost, quality and quantity of a textile product instead of figuring it out after the product was made.

He brought out the fact that the combination of proper processing and management reduces overhead, the stock on hand, and therefore, the working capital necessary, a vital factor today.

Under the head of research, he explained what had been done in the last few years and how the man with an intuitive mind had a big opportunity to correlate the present facts, develop new ones and how they could be applied in practical use.

He concluded by saying that he felt the opportunity of the engineer in the textile industry was broad and great, providing he was willing to properly train himself for it and then work intelligently and consistently at it.

## Report on 1926 Ginnings

Final figures on the cotton crop of 1926 show 17,977,374 bales of 500 pounds each ginned, according to figures announced by the U. S. Census Bureau. This total exceeds by 1,842,444 bales the previous high record crop of 1914.

The Department of Commerce, in announcing the revised final figures, stated its Census Bureau soon would distribute the annual bulletin on cotton production from the last crop. The bulletin will show ginnings by States and by counties, and ginnings to specify dates throughout the season by counties. The statistics were complied by the Bureau of the Census from the individual returns collected from 15,763 active ginneries located in 178 counties.

In its announcement regarding its complete statistics the Census Bureau says:

"The final figures of cotton ginned are 17,755,070 running bales, counting round as half bales, equivalent to 17,977,374 bales of 500 pounds each. The crop of 1926 was the largest ever harvested in this country, exceeding that of 1914, the next largest crop, by 1,842,444 equivalent 500-pound bales, that of 1925, the third largest, by 1,873,000 bales, and that of 1921, the smallest crop in 30 years by 10,023,733 bales.

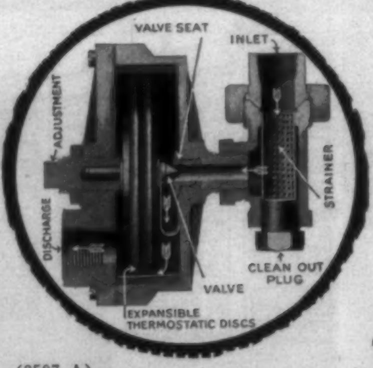
"The total as shown in the bulletin in 67,463 running bales in excess of the preliminary figues issued on March 21.

"The March estimates totalled 234,041 bales, for some counties amounting to as much as 6,000 bales. The bureau had the local agents in sections showing considerable quantities remaining to be ginned, make an additional canvass.

## Three Methods of Dyeing Silk Hosiery

(Conttinued from Page 16)

in the goods, will throw his shades far enough off the sample to call for special efforts. This is especially true when either the one bath method or the acid method is used. Both the latter require considerable experience and when all is said and done, it will take experience and patience to properly handle the goods with any method. In other words, it takes a Dyer.



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## The Fine Points of Carding

(Continued from Page 18)

all air passages open and have the air on the cages so that we get the best possible lap we can.

We should also watch our motes or droppings under grid bars, as at this place we can make a lot of waste that should go into the lap, or finished product. Grids should be so spaced that they will take out the most dirt and other foreign matter.

Kirshner beaters should be set in ⅛-inch of feed roll and kept in good condition. The points will dull just as will the blade beaters. The draft here is not the same as it is on the blade beater. They will create more draft and it will be necessary to have a stronger draft to overcome this excess draft.

Grid bars should be set to 3-16-inches nearest the feed roll and ½-inch at the lowest point.

Evener motion must be kept well oiled and in good working order. To keep an evener working right it has to be in first class mechanical condition and clean. An evener will not work right when it is clogged with oily lint.

There is a question as to what speed a two blade rigid beater should make. I get the proper speed from the amount of cotton being fed in. If the draft of the machinery is short the speed of the beater will be less. If the draft is long the speed should be higher.

After getting the machine to make the best lap possible, it is necessary that the weight of lap should not vary over one-half pound on either side of the correct weight.

After getting a perfect lap it can be spoiled at the cards. To continue the process of the perfect lap the cards are to be in first class condition. First the clothing is the best number, suitable for the class of work to be done. It is tight and sharp on the cylinder and doffer. The flats are in good condition and sharp. The licker-in is a very vital part of a card and should never be allowed to get in bad condition, that is, dull or crooked teeth. A crooked tooth had just as well be broken out for any good it does.

After getting the card in good shape it is necessary to have the setting right, for ⅞-inch to 1-inch staple. The following settings will give very good results. Flats are set to a number ten gauge. They should have the proper feel or pull at each setting point. The back setting should be set to the least pull, the front the stronger pull.

Some one may ask, what does he mean by pull in setting flats? When the gauge is in position, it is the amount of pull that it takes to move the gauge from one point to another. I have tried many different settings but I find that the above setting gives the best results.

The doffer comb is set to a 17; doffer to cylinder to a 7; licker-in to cylinder to a 7; feed plate to licker-in to a 10; back plate to full 4 leaf gauge; front plates according to amount of strips to be taken out; screen to cylinder to a full 4 leaf gauge at back, with a slightly looser setting at the front of card; licker-in screen to cylinder to a 17 gauge; licker-in screen to licker-in to a full four leaf gauge at the nose of the screen; Mote knives are set to 10 gauge, with the proper angle this will give good results, but if the angle is not right the work will be unsatisfactory.

### Card Grinder.

I will say that here is one of the most important places in the mill to have a good man. A man who can be relied upon to do his full duty. To have a man of this class is to have a man that is looking for something better and when we find a man looking for something better, and is willing to work for it, we find a man that has plenty of pep. He does not come to his work in the morning complaining of feeling bad. It is only on very rare occasion we hear him say he feels bad. Most of his thoughts are on his work and not on his feelings. We can't give our best to our work and give very much thought to our feelings. Thought about our work will detract from our feelings, just as thought about our feelings will detract from our work.

Back to the card again. We can't get good work from a card that is in first class condition unless the help is good. Help that has an interest in their work and will take pride in seeing that all parts are kept well oiled and clean.

How can we expect good work when we allow our cards to get dirty, as it is natural for some of the dirt and excess lint that is hanging around to get back in the web as it leaves.

The back of the card is a good place for a perfect good lap to be spoiled. The waste accumulation will get on the lap and of course go through the card and come out in the roll making an unsightly roll. As it is impossible to see all of the roll it will come out with the finished yarn and cause a lot of seconds, or worse a lot of waste.

Another good point about cards is to card just as light as possible to keep up with production. If we have on a production gear that gives a little too much put on a smaller production gear and see that the cards are not allowed to stand.

Here we sometimes fool ourselves. We are not sure that we could keep up in our production if we cut one tooth. The only sure way is to cut, then run the cards and give it a trial, before saying that it can't be done.

The draft on cards should never be less than 95 and is better with a longer draft. Say 100. When the draft is too short the licker-in does not have the chance to do its work properly.

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All belts and bands should be kept in good condition. They should be just tight enough to prevent slippage.

As I have had no experience on combed work, I will next take up the drawings. It is here we can't be to particular. If they are not looked after there will be a lot of damage to the stock.

The rollers should be in good condition with good flutes. If leather rolls are used they must be kept up to first class condition and be varnished at least once each week, and oftener if they begin to show wear. This not only helps to make good slivers, but also gives longer life to leather.

As to setting of the rollers, we have to be the judge. The weight of stock going through will determine what is the best setting. If the stock is heavy they will require just a little farther setting from center than they will when the stock is lighter. The front roll speed must not be too high. I would prefer about 300 R.P.M. and lower if the production would permit, draft 5½ to 6.

Trumpets should have a hole in them that will cause enough pull but not enough to stretch or break the fibres. They should all be the same size and any that is found to be worn should be replaced with new ones.

The sliver between the front roll and calendar roll should be tight enough to prevent sagging and not tight enough to stretch the sliver.

The frames should be kept clean and the rollers taken out and cleaned at least every four weeks. It is important that rollers and all other parts be oiled once each day with a good oil that does not flow too freely.

Finally to get the best results we must have good help. We can not take a green man or boy and get good results. As I have found it takes months to train a man to do the right way in all there is to do on a set of frames. With patience and a lot of work it is possible to make good help.

Draft on the different machines is very important on pickers. A draft of 400 is good.

Cards, 95 to 100; drawing, 5½ to 600; slubber, 375 to 425; intermediate, 500 is good; speeders, 525 is good

### Number Twenty-two

In order to give these points justice I shall have to go back to the opening room. There is no card that will give entire satisfaction unless the card receives a properly cleaned lap so this brings about a more detailed discussion.

First, see that the cotton is thoroughly mixed and do not let the scavenger waste of the mill go back in the feed uneven. It has a tendency to feed irregular so I find it best to have small waste machine just running fast enough to keep the waste consumed. This machine is just back of the bale breaker and is putting the waste of the mill back into the regular feed going from the bale breaker regularly, both feeds going into the suction and into the Murray opener where it is well mixed. Thence into the picker room and is put into an automatic feed hopper where the stock is being conveyed through a double beater breaker. By the time this breaker makes the first lap there is little scavenger waste to be seen.

I find it very necessary to keep my breaker laps just the right weight so that my evener belt on the intermediate lap also the right weight finishing lap.

In the meantime I notice closely the cleaning process of my machines. It is important that the air is kept right so as to make the stock lay evenly on the cages and the mote knives kept in good order to clean the stock thoroughly.

Second: Next, we take up the card with the corret weight and a well cleaned finishing lap. As the stock enters the licker-in back of the card the finishing plate should be set to a tight 10 for a 55 inch card, running a 13 oz. lap; mote knives, top knife set to 12 bottom to tight 17. Keep screen pulled up just so licker-in won't strike. Pull screen to 22 at cylinder, back plate to 22, back flats to 12, taper to front to tight 10. Setting doffer to tight 7 keep good stripping roller. Run cards slow when stripping in order to keep clothing clean. Keep wire sharp, both cylinder and flats, keep all oil away from clothing, keep bearing oil drains clean in order to drain oil to outside of card.

I have put these points into practical use and have found them to give entire satisfaction.

Cotton Sprout.
S. C. M.

(Continued Next Week)

## Miller Heads Texas Association

Dallas, Tex.—C. R. Miller, president of C. R. Miller Manufacturing Company, was re-elected president of Texas Cotton Manufacturers' Association at an executive meeting of the group. Eight members, representing about 15 Texas mills, attended. Other officers elected were J. Perry Burrus, Dallas, first vice-president; Clinton Phelps, Sherman Cotton Mills, Sherman, Tex., second vice-president; W. L. Steele, Brazos Valley Cotton Mills, West, Texas, secretary-treasurer; Sidney Files, Itasca Cotton Mills, Itasca, Tex., assistant secretary-treasurer.

Other members present included A. Culberson, C. R. Miller Manufacturing Company; Walter Hogg, Dallas Cotton Mills; A. L. Smith, Hillsboro Cotton Mills; and R. S. Porter, Merchants' and Planters' Mills, New Braunfels, Texas. A report of the accomplishments of the association during the last year was made by Mr. Miller.

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## Textile Cost Accounting

(Continued from Page 12)

In this mill there were no hank clocks on the spinning frames, and the spinners were paid by the side.

The productive labor runs down to and includes the 6½s filling, and in the extreme right hand column shows an unfavorable variation of $11.44.

In the third column from the right under the heading "Standard Rate," we show a rate of 50 cents for non-productive labor in the daytime and 60 cents at night.

These rates were established from the best week that the mill had had in the past and was nearly up to 90 per cent, based of course on like conditions as the weeks figures being shown.

Dividing the spindles in the room, and supposed to be running, into the total payroll, we established a rate per spindle of .02225 for the productive labor. and .06222 for the non-productive labor, as shown in Block D.

The total spindles on each number that were really required, times this rate gives the dollars that should have been expended on the payroll, and you cannot get around it or wiggle out from under.

In Block F, is shown the actual payroll of $880.19 and what the payroll should have been, giving an over of expenditure of payroll money of $131.67 for week.

Block G explains the cause of this $131.67 unfavorable variation. There can be only two elements in the whole problem, first, production may be above or below normal, and the payroll may show a decrease or an increase in the amount of labor.

There are 545 idle spindles that must be charged with their just burden of productive and non-productive labor rates per spindle which in this case amounts to $49.22.

Then we have an unfavorable variation in the productive labor payroll of $11.44 and $71.01 in the non-productive labor, making a total payroll variation of $82.45. This amount combined with the cost of idle spindles of $47.22 makes a total of $131.67, which checks with Block F.

In the spooling, warping, slashing and drawing-in departments the variations were so slight, due to the bulk of the work being on the piece rate basis, that we will pass over these costs without an explanation.

Next is shown the weave room production data—loom efficiency and summary of loom operations.

You will not in Block A, that this mill was running eight different styles of goods. Take the 40-inch—5.50 style and for convenience follow that down through the various steps. Fifty looms were allocated or supposed to be running on this style day and night.

One hundred per cent production per loom for 110 hours would be 168 pounds.

One hundred per cent for the 50 looms would be 8,400 pounds. The actual production was 7,412 pounds or 88.24 per cent. Turn to Block B, and note again the actual production in gross pounds—the pounds per loom per week—the average looms run.

In the next column we show what a loom will produce at 95 per cent. In the case the mill men agreed that 95 per cent was a fair mark to set as the loom had an extra 30 minutes period in the morning and ran through the noon hour.

Now—if you wanted 7,412 pounds of 40-inch—5.50 yard goods and had operated as you should, only 46.44 looms would have been needed. Then you had 3.56 looms that did not weave a yard of cloth for the full 110 hours, with a loss in production of 568 pounds.

The total of Block B shows 12.79 looms that did not produce at all for the full week with a loss in production of 2232 pounds.

Block C shows total looms in the mill—the total looms not run any part of the 110 hours. These 25.28 looms were purposely stopped and were not supposed to be running. The total looms run 110 hours with normal allowance for stoppage. Then the 12.79 looms that were abnormally stopped, plus the 25.28 purposely stopped, and we have 38.07 idle looms for the week.

The mills weekly losses begin to count up rapidly at this point, the details appearing on the next sheet.

The treasurer of this mill was not as interested in knowing the cost per pound of each individual style of goods, as he was in quickly finding out where the major variations were occurring. If he could correct these troubles and get up to production with a minimum expenditure of payroll, then his cost on the various fabrics would take care of themselves, and the detail construction or style costs could be figured later. This is a point that I want the active executives to think about.

After establishing the production and non-productive rates on the same principle that we did in the other departments, let's take up Block D.

Here we have a variation in non-productive labor only, as the weavers were all on the pick basis and no variation accured. 12.79 looms were stopped for the week and must be charged with the non-productive rate per loom for the room, which amounts to $37.91.

In this mill the treasurer desired the overhead gross to to absorbed on the rate per loom basis, which is $5.45 per loom, and as the idle looms must be charged with this rate, we have another loss of $69.81.

The 25.28 looms that were not belted up cannot escape the overhead rate and this amounts to $137.98.

There we have $37.24—a variation in non-productive labor, all making a total of $282.94 losses for one week.

In three weeks from the time this system was operating, this mill had reduced this figure to about $50.00. Why good mill men will continue to figure costs by dividing pounds into dollars is beyond my scope of understanding.

The cost summary is the cost sheet and shows the gross production of each department—the actual expenditures of dollars—the dollars that you should have paid—the variation between the two—the actual cost per average pound, and what it

BLEACHERS!

**Can Cotton be bleached with Solozone?**

Yes it can, and should be, if you want
strong goods,
soft goods,
permanently white goods.

**But the Solozone bleach costs more?**

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**How can I investigate without much trouble?**

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| $7.50 | $8.50 | $9.00 |

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For Better Spinning
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should have cost you, and the variation between the two.

This mill will eventually want a distinct fabric cost, and the only change that will have to be made is the proper division of the overhead to the physical setting.

### A Few High Spots.

1. Disclose the abnormal expenditures of money and the sub-normal production, and obtain these items as quickly as possible.

While these errors are being corrected in the mill the accounting department can promptly work out any fabric cost, with overhead properly distributed.

2. Dollars and cents overhead for a new mill can be anticipated quite accurately and be distributed or charged to the proper physical units, before a pound of cotton goes into the mill.

3. As production flows through the mill the various yarn numbers and fabrics absorb the overhead charges in proportion to the amount of machinery each particular style may employ.

4. Do not show favoritism in applying overhead charges. Because one fabric is heavier than another and thereby a greater pound producer is no reason why it should be over charged.

Probably the lighter weight fabric requires more spinning spindles to supply one loom, and in turn more speeder spindles to supply the spinning, hence it must shoulder it's just share of the burden.

5. Due to a degree of idleness of machinery in the best regulated mills, there will always be an amount of overhead that cannot be absorbed.

To assume that all of the overhead can be absorbed on the poundage basis is to presume that the buyer is willing to pay for inefficient production and idle machinery. He will not do so as long as it is possible to purchase goods from mills in which idleness has been reduced to a minimum, and their costs corresponding lower.

6. Our system does not disturb your present methods of book-keeping. It should eliminate many accounts, and daily entries now being made.

7. Your present production and payroll reports should provide all the necessary information to make the system operative.

8. It can be made up in one day at the end of any week or month period.

9. It deals in present operating conditions and not in matters so antidated that corrective measures are worthless.

10. A cost system is not a system of management. It does not replace the keen sense of vision or merchandising ability of the executive, but it will be a guide and main stay to him in dealing with problems in the ever changing market.

---

## Textile Institute Cooperating With Many Industries

(Continued from Page 10)

"Another place in which it seems to me we can be of mutual assistance to one another is the case where you, either individually or

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better yet, representing a group of buyers are not satisfied with the fabric which you find on the market. It will be perfectly feasible for you to submit your problem or your requirements, together with details of the material you are now using, and the objections to it, to your textile committee and through them to the Institute and the Association of Cotton Textile Merchants, who in turn will call into conference quickly, men experts in their line, representing that particular group of the textile students engaged in the manufacture and sale of material that is or may be used for the particular purpose under discussion. In this way the best knowledge and information available will be mobilized in the solution of the problem.

"I further believe that it is an accepted fact that the knowledge of the true condition and situation within one industry by other industries is of real benefit to all. Therefore, it may be possible for the textile industry through the medium of your association to supply you with such facts as will be mutually beneficial.

"Now gentlemen, I have endeavored to briefly sketch the organization of the Cotton-Textile Institute and where it appears that they may be able to be of some assistance to you and the various industries which you represent. But our work must be based upon sound economic principles, or it cannot succeed. I am satisfied, however, that the Cotton-Textile Institute under the leadership of Walker D. Hines as president, will go forward in all its work keeping in front of it the viewpoint of the consumer as well as the viewpoint of our own members and of work toward the goal of better conditions and increased earnings for all."

## Textile Students in Demand

Thomas Nelson, dean of the Textile School, North Carolina State Colleges, announces that this year he has had more requests for textile graduates than ever before and there are not enough men in the present senior ciass to supply all these requests. Every year more mill executives are taking textile graduates into their mills and training them for positions of responsibility, and Mr. Nelson says that in his opinion the textile industry offers a young man more opportunities for advancement than any other industry in the South.

Franz E. Plummer, of Selma, Ala., a senior in the Textile School at State College, will deliver the valedictory address at the commencement exercises next week. Mr.
The students' medal, awarded annually by the National Association of Cotton Manufacturers, has been won by Mr. Plummer. The medal is presented to the textile student showing the greatest proficiency in his work. Presentation of this medal will be made during commencement.
After graduation Mr. Plummer will go to Lynchburg, Va., where he has accepted a position in the cost department of the Consolidated Textile Corporation.

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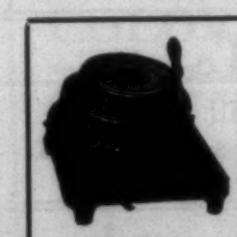

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Grey Goods, Print Cloths, Twills, Sheetings, Pajama Checks, Arcadia Mills, Spartanburg, S. C., Clinton Cotton Mills, Clinton, S. C., Hermitage Cotton Mills, Camden, S. C., Mills Mill, Greenville, S. C., Osage Mfg. Co., Bessemer City, N. C.

# Cotton Goods

New York.—The cotton goods markets were stronger as a result of the higher cotton prices during the week and higher prices were named on many lines. The volume of business was moderately large. Mills as a whole are well sold through June and July and many of them are well under order until the fall.

The advance in prices were noted on narrow print cloths, bleached cottons, heavy colored goods, flannels, ginghams and chambrays and others. Production continued large, but orders are well in excess of output and stocks are small.

Percale business was held to small volume because printers were not willing to sell large lots at present prices as advances are expected this week. Sheets and pillow cases sold fairly well, bedspreads were active, cotton duck business was larger at prices 1 to 2 cents higher.

Sales of finished goods were only moderately large as the new prices were put into effect, but a large business was done before the advance was made. A great many odd lots of goods were cleaned up in the wash goods lines and a much better business in these goods is expected soon.

An interesting feature of the print cloth situation is that the staple wide numbers are well sold ahead and that it is estimated that stocks available are not in excess of a week's production. The same condition is apparent in some of the sheetings used by the bag trade. Drills are also well sold ahead. Goods that are used for printing and converting are generally better sold those that are made up for wholesale distribution.

Considerable activity was reported in the print cloth section, where spots and quick deliveries of several constructions were bought, further accentuating the limited quantities which are available. Sales of print cloths on Thursday were especially large. Sheetings sold in scattered lots, with nothing outstanding. Several mills put up prices on wide drills and also osnaburgs. A few second hand lots of a few styles were found at under regular quotations.

It was estimated that printers and bleachers took upward of two million yards. A good many 64x60s sold at 7¼c for nearby and 68x72s for this month and quick at 8½c. Earlier 72x76s brought 9¼c, and later demands for July and August could not be filled for less than 9⅜c. A fair amount of 80 squares brought 10¼c for quick and 8.20-yard 5c. A good many nearby 27-inch 64x60s sold at 5½c, contracts in September held for 5⅜c, and 28-inch advanced to 5⅝c.

Sheeting showed further strength in a number of styles and, although the trade was not active in all centers, there was altogether a fair sized business put through.

Quick 31-inch, 48x48, 5.00 yard are generally held firm at 6⅝ cents, net; August delivery sold at one-half. The situation in the 6.15s was firm and practically unchanged. Sales of quick 36-inch, 48x40, 5.50 yard at 6 cents, net, which continued to be the firm market. There had also been some good forward business in this style at even money.

The market on 40-inch, 5.00 yard was heard at 6⅝ net for contract, and some ask three-quarters; 40-inch, 3.60 yard quoted at 9½ net; 40-inch, 3.75 yard at 8¼ net, and report that three-eighths had been paid for nearby of certain make; 40-inch, 4.25 yard at 7¼ to one-half; 37-inch, 3.50 yard sold at 8½ net for August-September; 36-inch, 3.00 yard quoted at 10 net for nearby, and reports of one-quarter less for contract again heard.

There were rumors of very heavy business having been done on 64x48s carded warp rayon and cotton mixtures at 15¾c, the cloth made with a domestic fiber. In other quarters a sub-count of the 64x48s was reported sold at 16c, made with combeb warps. One or two large operators were said to be the buyers.

Plain voiles have held quiet but contracts have been placed for rayon decorated constructions. These are intended for dress goods. Substantial sales of two by one combed broadcloths were quietly placed for one of the choicer makes. A number have also taken smaller quantities of single 144x76s.

There has been more interest in the low-count carded reverse stripe warp sateens, and prices on these goods are up one-quarter of a cent. Several thousand pieces of the 88x48, quick, sold at 8¾ cents.

Cotton goods prices were quoted as follows:

| | |
|---|---|
| Print cloths, 28-in., 64x64s. | 5¾ |
| Print cloths, 28-in., 64x60s. | 5½ |
| Print cloths, 27-in., 64x60s. | 5⅝ |
| Gray g'ds., 38½-in., 64x64s. | 7¾ |
| Gray goods, 39-in., 68x72s.. | 8½ |
| Gray goods, 39-in., 80x80s.. | 10¼ |
| Brown sheetings, 3-yard .. | 10¼ |
| Brown sh't'gs., 4-yd., 56x60 | 8¾ |
| Brown sheetings, stand..... | 11¼ |
| Tickings, 8-oz. ............ | 18½a20 |
| Denims ................... | 15 |
| Staple ginghams, 27-in.,.... | 9 |
| Kid finished cambrics..... | 8½a 9 |
| Dress ginghams .......... | 14⅝a16½ |
| Standard prints .......... | 8 |

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**LESSER-GOLDMAN COTTON COMPANY**
OF ST. LOUIS, MO.
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Extra staples, and good 1 1-16 and 1⅛ cotton from Arkansas, Oklahoma, and Texas, and Memphis territory.

# The Yarn Market

Philadelphia, Pa. — An upward trend in cotton yarn prices was noted throughout the week, the higher prices following the advances in the price of raw cotton. The advances applied to practically all yarns throughout the list. Buyers showed considerably more interest as quotations began to rise and inquiry was much better than during the previous week. The resultant business however was only moderate. In some instances buyers were willing to meet the higher prices for fairly large quantities, but as a whole they stuck rather closely to their hand to mouth attitude.

Spinners continued very firm in their price ideas and the majority of them continuel to refuse business offered under their quoted prices. On carded yarns, inquiry was fairly general throughout the week. A great many yarn consumers continued to express the opinion that present yarn prices are not warranted by the advance in cotton. Spinners, on the other hand stated that they could not continue indefinitely to accept yarn prices based on 15 cent cotton, especially in view of the fact that suitable cotton is costing spinners 18 and 18 cents a pound.

After the middle of the week, combed yarns became much more active and very substantial sales were reported at higher prices. The advances ranged from 1 cent on some of the coarse numbers to 5 cents a pound on some of the finer counts. Many consumers are known to be in need of further supplies and and larger buying is expected to develop this week. Some buyers who have been delaying placing orders bought last week at prices considerably higher prices than they would have paid several weeks ago.

Figures compiled by the Gaston County Textile Association show that the members of that group during the first third of the year sold more than half as much yarn as was sold in the entire year, 1926. The association report indicates that sales in the first quarter ran 6,500,000 pounds above the first quarter of last year. The May sales figures have not been compiled, but informed sources say the additional business booked by the spinners last month was sufficient to take them out of the market for at least three months and in several of the larger organizations, it is stated, every spindle has been provided with work that will maintain the present rate of operation well into next fall.

### Southern Two-ply Skeins.

| | |
|---|---|
| 8s | 25½a |
| 10s | 27 a |
| 12s | 27½a |
| 14s | 28½a |
| 16s | 28½a |
| 20s | 30 a |
| 24s | 32 a |
| 26s | 34 a |
| 30s | 36 a |
| 40s* | 45 a |
| 40s‡ | 45½a46½ |

### Southern Two-ply Warps.

| | |
|---|---|
| 8s | 26½a |
| 10s | 27½a |
| 12s | 27 a |
| 14s | 27½a |
| 16s | 28 a |
| 18s | 29½a |
| 20s | 30 a |
| 24s | 32 a |
| 26s | 34 a |
| 30s | 36½a37 |
| 40s* | 44½a45½ |
| 40s‡ | 42 a49 |

*Ordinary. ‡High grade.

### Southern Frame Spun Carded Yarn on Cones—Cotton Hosiery.

| | |
|---|---|
| 8s | 26½a |
| 10s | 26½a |
| 12s | 27 a |
| 14s | 27½a |
| 16s | 28 a |
| 18s | 28½a |
| 20s | 29 a |
| 22s | 29½a |
| 24s | 29½a |
| 26s | 30 a |
| 30s | 32½a |
| 30s† | 34½a |
| 30s§ | 32½a |
| 40s | 43½a |

†Doubled carded. §Tying-in.

### Southern Single Skeins.

| | |
|---|---|
| 4s-8s | 26 a |
| 10s | 26½a |
| 12s | 27 a |
| 14s | 27½a |
| 16s | 28 a |
| 18s | 28½a |
| 20s | 29 a |
| 22s | 29½a |
| 24s | 32 a |
| 30s | 34 a |
| 40s | 42½a |

### Southern Single Warps.

| | |
|---|---|
| 4s-8s | 26½a |
| 10s | 27 a |
| 12s | 27½a |
| 16s | 28½a |
| 18s | 29½a |
| 20s | 30½a |
| 24s | 32½a |
| 30s | 34½a |
| 40s | 44½a |

### Southern Two-ply Comber Peeler Mercerizing

| | |
|---|---|
| 8s-12s | 42 a |
| 20s | 43 a |
| 30s | 47 a49 |
| 36s | 52 a54 |
| 38s | 54 a55 |
| 40s | 55 a56 |
| 50s | 58 a59 |
| 60s | 66 a68 |
| 70s | 76 a78 |
| 80s | 87 a91 |

### Southern Two-ply Hard Twist Combed Peeler Weaving Yarns.

| | |
|---|---|
| 8s-12s | 38½a |
| 10s | 40½a |
| 30s | 45½a |
| 36s | 50½a |
| 40s | 52½a |
| 50s | 55½a56½ |
| 60s | 63½a65½ |
| 70s | 75½a |
| 80s | 84½a |

### Two-ply Mercerized Yarn.

| | |
|---|---|
| 20s | 61 a63 |
| 30s | 64 a |
| 40s | 69 a71 |
| 50s | 76 a79 |
| 60s | 85 a88 |
| 70s | 99 a1.02 |
| 80s | 1.12a1.14 |

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# Want Department

### Bargain in Machinery If Bought Promptly

1—two cylinder 7 x 5 Lowell Slasher—8 beams, Hyatt roller bearings.

16—Fales & Jenks Spinning frames, 192 spindles each, 2¾ inch gauge, 1½ and 1¾ inch rings.

4—Whitin Spinning frames, box heads, 192 spindles each, 2¾ inch gauge, 1¾-inch rings.

All this machinery now running, may be seen in operation in our mill at Ramseur, N. C. It is to be replaced in July with new machinery of different specifications.

Write, call or come to see us quick. Columbia Manuafcturing Company, Ramseur, N. C.

### Position Wanted

Young married man with executive ability desires textile connection. Five years mill office experience. Now employed but wishes to connect with organization offering opportunity for further advancement. Satisfactory references furnished. Address G. M. V., care Southern Textile Bulletin.

### For Sale

70 Section Beams, 24/1 carded, 505 ends, 12,000 yards, 21,000 lbs.
204 Ball Warps, 24/1 carded, 505 ends, 6,000 yards, 30,600 lbs.
169 Ball Warps, 28/1 carded, 480 ends, 6,300 yards, 21,716 lbs.
258 Ball Warps, 28/1 carded, 378 ends, 9,000 yards, 73,280 lbs.
60 Ball Warps, 28/1 carded, 378 ends, 6,000 yards, 5,790 lbs.

This lot is all in first-class condition and samples and a low price will be sent to anyone interested. Address "Yarns," care Southern Textile Bulletin.

### Information Wanted.

Mrs. Lucy Garnder, age 39 years, height 5 ft. 10 in., weight 140 pounds. Dark Brown hair, gray eyes, eczema on her face and nose and scar behind her left ear. Has had a felon on her left fore finger. Is a textile worker, frame hand or spinner. Disappeared from her home last June. Any one knowing her whereabouts please notify her father and mother, and it will be greatly appreciated. Mr. and Mrs. C. F. Bivens, 105 Everett St., Burlington, N. C.

### Wanted

One long chain beamer and one Drawing-in machine man. Communicate at once with Geo. R. Murphy, superintendent, Asheville Cotton Mills, Asheville, N. C.

RODNEY HUNT
**Textile Wet Finishing Machinery**
**Water Power Equipment**
**Rolls—Wood, Metal, Rubber**
RODNEY HUNT MACHINE COMPANY
55 MILL STREET ORANGE, MASS.

### Machinery for Sale

10 Crompton & Knowles 72" wide Jacquard, 1,304 hooks.
20 Crompton & Knowles 82" wide Jacquard, 1,304 hooks.
1 Crompton Loom, 72", no Jacquard.
2 Altemus Bobbin Winders (Skein to Bobbin), 30 spindles.
1 Sizing Machine, Plate type (5 cans).
1 Sizing Machine, Spraying type.
1 Friction Calender, 1 Paper and 2 steel rollers, 64 inch.
1 Moire Calender, 2 steel rolls, gas equipment, 40 inch.
1 Altemus Cop Winder, 48 spindles, skein to cop.
2 Altemus Cop Winders, 28 spindles, skein to cop.
2 Altemus Cop Winders, 30 spindles.
1 Lever & Grundy Silk Bobbin Winder, skein to bobbin, 60 spindles.
2 Silk Spooling Frames, 60 spindles.
2 Polishing machines (Luther).
1 80-spindle (3 rolls for machine novelty).
2 Cotton reel.
1 Sewing Machine (Comley).
4 Sewing Machines (Davis).

Write for further information.

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General manager for 2,000 spindle yarn mill making 8s ply yarn, who can take $6,000.00 stock in plant. Good proposition for the right man. Address "Opportunity," care Southern Textile Bulletin.

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1 Large Size Kitson Automatic Hopper.
1 Howard & Bullough Vertical Opener with Screen Section.
3 Kitson Waste Cleaners with 24" Automatic Hoppers.
1 Murray Cleaner, Ball Bearing.
300 30" E Model Draper Looms, Lacy Top.
200 32" E Model Draper Looms.
300 36" E Model Draper Looms, Motor Drive, Lacy Top.
300 42" E Model Draper Looms, Motor Drive.
20 42" C. & K. Dress Goods Looms, 20 Harness Dobbies.
30 60" Model P Draper Looms, 20 Harness Dobbies.
1 Barber - Colman Drawing - in Machine.
2 Morton Beam Dyeing Machines with 24 Beams.
3 Curtis & Marble New Type Inspecting Machine, 40", 42", 56" Cloth.
5 No. 50 Universal Tube and Cone Winders.
19 Fales & Jenks Spinning Frames, Tape Drive, 3¼" guage, 1¾" ring, New.

All of the above machinery in A-1 condition at exceptionally low price for quick sale.

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Barber-Colman Machine. Must be able to keep up machine in first-class order. None others need apply. All white work; pay $20 per week. Address B. C. M., care Southern Textile Bulletin.

Young man with six years mill office experience wants position. Will consider anything in clerical work in a mill office. Address "Clerical," care of Southern Textile Bulletin.

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We do not guarantee to place every man who joins our employment bureau, but we do give them the best service of any employment bureau connected with the Southern Textile Industry.

WANT position as cloth room overseer. Now employed as second-hand in cloth room in mill having a weekly production of about 200,000 pounds. Familiar with ducks, monarch enameling ducks, sail ducks, shoe ducks, laundry ducks, and harvester ducks. Good manager of help. Age 45, married and have eight in family. Have three to work in mill. Can give good references. No. 5155.

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WANT position as overseer of carding and spinning. Experienced on spinning. Good references. No. 5156.

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WANT position as overseer of weave room. Experienced. 33 years of age. Good references. No. 5157.

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WANT position as superintendent, or carder, or spinner. Long practical experience combined with textile education. References. No. 5158.

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WANT poistion as overseer of weaving. Experienced on cord weaving and plain weaving. Good references. No. 5159.

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WANT position as second hand of carding or overseer of carding. Employed at present but can change on short notice. Good reference. No. 5160.

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WANT position as second hand of spinning, or spooling and warping in 20,000 to 100,000 spindle mill ;or overseer of spinning in small mill of 10,000 to 50,000 spindles. Will consider position in either yarn or weave mill. Experienced. 29 years of age and married. Can furnish good references. No. 5161.

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WANT position as superintendent of yarn mill, or overseer of carding. Could change on reasonable notice. References. No. 5162.

---

WANT position as overseer of fancy weave room. 9 years experience as overseer on all fancies. Can furnish A-1 references. Desire salary of $7.00 a day or more. No. 5163.

---

WANT position as overseer of spinning. Have been on present job for 15 years. Can furnish good references. No. 5164.

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WANT position as superintendent. Experienced on tire cords, combed and carded yarns. Good references. No. 5165.

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WANT position as superintendent, or overseer of carding. Experienced. Can furnish the best of references. No. 5166.

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WANT position as superintendent or assistant superintendent. Expert on cotton carding, spinning or winding. I. C. S. graduate. Could straighten out a plant that is run down. Sixteen and one-half years on last position. Good references. No. 5167.

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WANT position as superintendent, or overseer of carding and spinning. Experienced. Married and have family. Can furnish good references. No. 5168.

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WANT position as second hand in spinning. Experienced. Can give good references. No. 5169.

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WANT position as master mechanic. Have had 14 years experience, with 6 years on present job. Can furnish good references. No. 5170.

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WANT position as superintendent, assistant superintendent, or overseer of carding and spinning. Good references. No. 5171.

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WANT position as superintendent or overseer of spinning. Experienced. Have been overseer for twelve years. Can furnish good references. No. 5173.

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WANT position as superintendent. Prefer fancy weaving mill in Piedmont Section of N. C. or S. C. Would consider other location. Employed at present but desire change. Good references. No. 5174.

---

WANT position as overseer of carding Have had ten years experience as overseer on white and colored work. 40 years of age, married and strictly sober. Can give good references. No. 5175.

---

WANT position as second hand or overseer of carding in small mill. Have had 28 years experience as fixer and second hand. Married. Strictly sober and reliable. No. 5176.

---

WANT position in either silk or fine cotton mill as superintendent, assistant superintendent, designer or overseer of weaving. Have been boss weaver and designer 25 yars; 7 years in the South and 18 years in New England on fine fancy cotton and silk goods and all kinds of novelties. Good references. No. 5177.

---

WANT position as overseer of weaving. Experienced. Prefer place in North Carolina or South Carolina. Can give god references. No. 5178.

---

WANT position as superintendent of small mill, or overseer of carding in large mill. Experienced. Can furnish god references. No. 5179.

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WANT position as superintendent or overseer of weaving. Experienced. Can give good references. No. 5180.

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WANT position as superintendent or overseer of weaving. Good references. No. 5181.

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WANT position as overseer of jacquard weaving. Have been overseer 7 years on one job. Three and one-haf years experience on rayon. Good references. No. 5182.

---

WANT position as overseer of carding. Ten years experience as overseer in carding. 36 years of age. Can furnish A-1 references as to character and ability. No. 5183.

---

WANT position as overseer of weaving. Four years experience on rayon; 15 years experience on fancy work. Good references. No. 5184.

---

WANT position as assistant designer in fancy mill, or warping and winding. Would also consider carding. Can furnish good references. No. 5186.

---

WANT position as overseer of weaving. Experienced. Good references. No. 5188.

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WANT position as superintendent, overseer or designer. Good references. No. 5189.

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WANT position as overseer of weaving, or designer. Experienced on all kinds of plain and fancy weaves, including jacquards. Ten years experience as overseer. 37 years of age and have family. References. No. 5190.

---

WANT position as chief engineer or master mechanic. Several years experience on both steam and electric power. Can handle machine shop in first class manner. Good references. 5191.

---

WANT position as superintendent of yarn mill or overseer of carding or spinning in large mill. Employed at present but desire to change. References. No. 5192.

---

WANT position as overseer of spinning or night superintendent. Experienced on combed yarns. Good references. No 5193.

---

WANT position as overseer of cloth room. Experienced in both white and colored goods. Can furnish best of references. Good references. No. 5195.

---

WANT position as overseer of spinning. Twelve years experience. Have run numbers from 4s to 40s. Married and have family. Can furnish good references. No. 5196.

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  - United Chemical Products Corp.
  - Jacques Wolf & Co.
- **Finishing Machinery—**
  - ——See Dyeing, Drying, Bleaching and Finishing
- **Flat Wall Paint—**
  - E. I. du Pont de Nemours & Co., Inc.
- **Fluted Rolls—**
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  - Woonsocket Machine & Press Co., Inc.
  - Whitin Machine Works
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  - Southern Spindle & Flyer Co.
  - Whitin Machine Works
  - Woonsocket Machine & Press Co., Inc.
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  - Southern Spindle & Flyer Co.
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  - Steel Heddle Mfg. Co.
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  - ——See Clutches
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  - Klauder Weldon Dyeing Machine Division, H. W. Butterworth & Sons Co
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  - B. S. Roy & Son Co.
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  - Link-Belt Co.
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  - Ferguson Gear Co.
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  - Diamond State Fibre Company
  - Ferguson Gear Co.
- **Grate Bars—**
  - Scriver Iron Works (McNaughton)
  - Thomas Grate Bar Co.
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- **Greases—**
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  - N. Y. & N. J. Lubricant Co.
  - L. Sonneborn Sons Co.
  - United Chemical Products Corporation
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  - William Sellers & Co., Inc.
  - T. B. Wood's Sons Co.
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  - William Sellers & Co., Inc.
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- **Harness Twine—**
  - Garland Mfg. Co.
- **Harness and Frames—**
  - ——See Heddles and Frames
- **Heddles and Frames—**
  - Garland Mfg. Co.
  - Howard Bros. Mfg. Co
  - Steel Heddle Mfg. Co.
  - L. S. Watson Mfg. Co.
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  - Barber-Colman Co.
- **Hopper-Feed Hand Stokers—**
  - The J. H. Williams Co.
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  - Cocker Machine & Foundry Co.

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Wolf, Jacques & Co.
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**Sodium Peroxide—**
The Roessler & Hasslacher Chemical Co.
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United Chemical Products Corporation.
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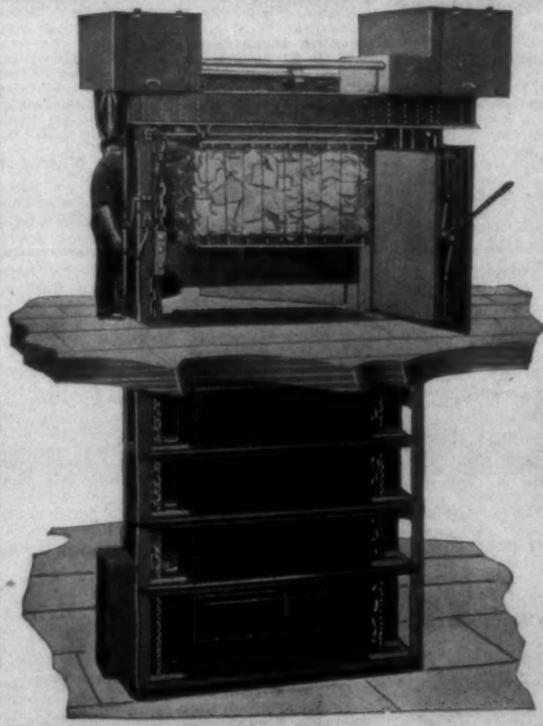

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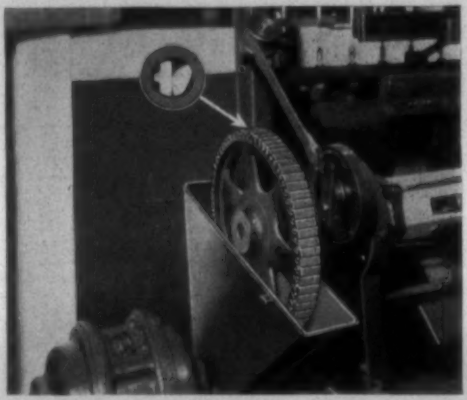

*1-2 H. P. Morse Silent Chain Drive from motor to reels. Driver 1100 r. p.m.; Driven 203 r. p.m., 13 inch centers.*

Many cotton mills are enjoying increased production and better yarns through the use of Morse Silent Chain Drives. Their sustained efficiency of 98.6% and the dependable Rocker-Joint action makes this possible.

Adaptability to short centers makes convenient spacing of machinery possible and makes a neat, clean mill. By eliminating unsightly and inefficient line shafts and belting, lighting conditions are materially improved.

Let a Morse Transmission Engineer show you how Morse Drives can serve you. Address the nearest office.

**MORSE CHAIN CO., ITHACA, N. Y., U. S. A.**

Atlanta, Ga.
Baltimore, Md.
Birmingham, Ala.
Buffalo, N. Y.
Boston, Mass.
Chicago, Ill.
Charlotte, N. C
Cleveland, Ohio
Denver, Col.
Detroit, Mich.
Louisville, Ky.
Minneapolis, Minn.
New Orleans, La.
New York, N. Y.
Omaha, Neb.
Philadelphia, Pa.
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## MORSE SILENT CHAIN DRIVES

THE MORSE "ROCKER JOINT"

OST 1354

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## *Starch*

EAGLE

### *and these Stars have a meaning*

—They signify the different grades in which Thin Boiling Eagle Starch is offered to the Textile Industry.

Being the pioneers in the manufacture of Thin Boiling Starches, we are gratified at the widespread recognition they have received.

Be sure to select the grade best suited to your work. Our knowledge and experience are at your service.

**CORN PRODUCTS REFINING COMPANY**
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Selling Representatives:

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## *Starch*

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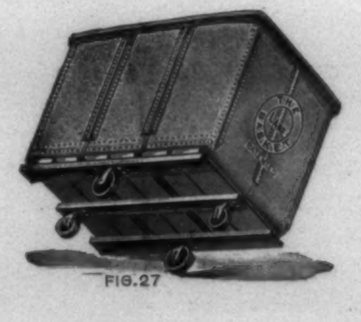


FIG. 27

## LANE

**Patent Steel Frame**
**Canvas Mill Trucks**

Consider the economy of the Lane Canvas Truck, adapted as it is to withstand many years of service—because of the quality, strength and durability, which are built into it from the start.

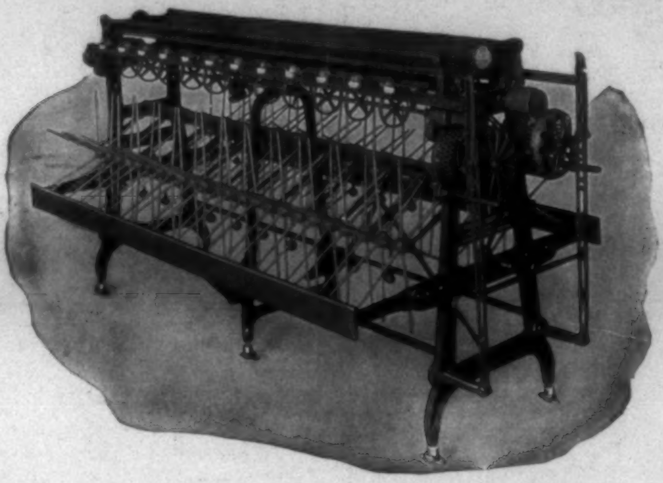
## W. P. Lane & Brothers

*Originators and Manufacturers of*
*Canvas Baskets for 25 years*

**Poughkeepsie, N. Y.**

# RAYON MACHINERY

The
Sipp Winder
for
Winding Rayon
and
Fine Mercerized
Yarn



Sipp
Machine Co.
Paterson, N. J.
Makers

—

Also
Silk and Rayon
Warpers

**ARTIFICIAL SILK WARP SIZING MACHINES, used by leading manufacurers and recommended by manufacturers of artificial silk, manufactured by CHAS. B. JOHNSON, Paterson, N. J.**

# G. G. SLAUGHTER

**Complete Equipment For Manufacturing, Processing and Finishing**

**1016 Johnston Building** **Southern Agent** **Charlotte, N. C.**

## Dye or Starch Kettles
## Cast Iron Mixing Kettles

Any Size Required

Cast with ⅝ inch thick walls, ¾ inch thick bottom.
Special quick opening outlet valves. Clockwise and counter clockwise agitators. Steam coils. Copper lined if required.
Furnished with belt or motor drive.

**BRIGGS-SHAFFNER COMPANY**
Winston-Salem, N. C.

# LEATHER BELTING

CHARLOTTE LEATHER BELTING COMPANY
CHARLOTTE N.C.

The Complete Line of CHARLOTTE BELT is cut from the QUALITY area of the hide, eliminating excessive stretch and power loss due to slippage.

**Charlotte Leather Belting Company**
**302 E. 6th Street**
**Charlotte, N. C.**
*Makers of Leather Belting since 1894*